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ABSTRACT

This report summarizes the work done to date on a study of resource allocation in universities. This report specifically is concerned with budgeting and resource allocation at Princeton University. The document consists of 4 sections. The first section deals with the process of budgeting at Princeton as it has evolved over the last 4 years. After a brief discussion of the functions of all budget systems, the main features are described of the budgeting process as it existed at Princeton during the 1960's. The second section consists of a reprint of the Report of the Priorities Committee to the President: Recommendations Concerning the Budget for Fiscal Year 1971-72. Section III consists of the 1972-73 Report of the Priorities Committee to the President. This report shows the position of the University budget one year later and contains some comments on conclusions reached and lessons learned in the intervening period. The final section deals with program budgeting and long-range planning. It contains some tables and calculations showing the distribution of expenditures and income among broad program categories. (Author/HS)

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BUDGETING AND RESOURCE ALLOCATION AT PRINCETON UNIVERSITY

Report of a Demonstration Project
Supported by the Ford Foundation

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BUDGETING AND RESOURCE ALLOCATION AT PRINCETON UNIVERSITY

Report of a Demonstration Project
Supported by the Ford Foundation

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June 1972

Princeton, New Jersey

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INTRODUCTION

This report summarizes the work done to date under a grant from the Ford Foundation for the study of resource allocation in universities.

To refer to what we have tried to do as a "study" is somewhat misleading, however. From the beginning we have conceived of this effort as a "demonstration project" intended to show what could be done -- and also what could not or ought not to be done -- in applying systematic techniques of analysis to actual problems of resource allocation in a particular university setting. Thus, while we have addressed ourselves to conceptual issues, we have not done so in the abstract; nor have we been able to avoid devoting a great deal of our effort to the highly specific and detailed tasks involved in moving from general concepts to operational decisions.

We do not claim that this is the only proper way to study resource allocation in universities. We do think, however, that in attempting to develop any new system of budgeting and financial planning there is much to be said for accepting the discipline that comes from coping with problems of implementation as well as problems of conceptualization. In any event, in our own situation we think that we have learned a good deal about the limitations, as well as the advantages, of more analytical budgeting procedures as a result of having had to be more or less practical.

It seems right to direct attention to this general characteristic of our work at the start of this Introduction because of its pervasive effect on all that follows. In particular, some readers may find that the report contains more detail and more discussion of apparently minor matters than is of interest to them. We have tried to minimize this problem by presenting a detailed table of contents and a kind of "reader's guide" to facilitate selective reading and the skipping of sections. Still, the basic nature of the report has been dictated by the decision to conduct a demonstration project rather than to engage in a more general study, and there is no avoiding the expositional consequences altogether.

A second, related, characteristic of this report is that it deals with techniques and methodology in the context of particular budgetary problems important in one institutional setting at one point in time.[1] Thus, there is no doubt more discussion of data and issues of policy specific to Princeton than is desirable from the standpoint of most readers. This, too, is a price of concreteness. Our hope is that the interplay between substance and techniques of analysis will serve the useful purpose of emphasizing that the nature of the approach taken to the preparation of a budget must depend on the financial and institutional situation at hand. It is a mistake, in our view, to suppose that there is one budgetary system that will suit all occasions.

A final general characteristic of the report to be noted is that most of the work which it describes is still very much in progress. This is particularly true of the work on program budgeting and long-range planning. What we present here must be regarded as current thinking on our part, very much subject to change, elaboration, and, we hope, improvement.

The body of this report consists of four sections. The first section deals with the process of budgeting at Princeton as it has evolved over the last four fiscal years. After a brief discussion of the functions of all budget systems, we describe the main features of the budgeting process as it existed at Princeton, and presumably many other colleges and universities, during the 1960's. In this way we try to establish a point of reference for the much more detailed discussion of the budgeting process as it now exists. We make no attempt to catalog each of the intervening stages of what remains an evolving system, for this would be much too tedious; but we do call attention to the major lessons learned from early mistakes. The discussion of the present budget process includes samples of the forms used to collect and analyze the data underlying the 1971-72 budget as well as a fairly detailed account of the decision-making procedures. (We use the 1971-72 budget, rather than the one for 1972-73, for purposes of illustration because we analyzed more areas in greater depth that year than in the following year.)

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[1] This report does not contain any discussion of the factors causing the financial problems facing virtually all colleges and universities. For a good recent study of this subject, see Earl Cheit, The New Depression in Higher Education, McGraw-Hill, 1971. The views of one of us on the underlying financial problem, looked at as of the spring of 1967, are stated in The Economics of the Major Private Universities, published as a report of the Carnegie Commission on Higher Education. A slightly revised edition, containing data for a larger number of private universities, was published by the Joint Economic Committee in 1969 in the compendium titled The Economics and Financing of Higher Education in the United States.

Section II of the report consists simply of a reprint of the Report of the Priorities Committee to the President: Recommendations Concerning the Budget for Fiscal Year 1971-72, which was completed in January 1971 and subsequently distributed widely. This document is included here in its entirety for three reasons: (1) it shows where we came out in terms of substantive proposals and indicates the principles that guided us; (2) it shows the form in which we presented our views to our own students, faculty, staff, Trustees, and alumni; and (3) it serves as a convenient point of reference for the discussions of procedures and methods of analysis contained in the other sections of this report.

Section III consists of the 1972-73 Report of the Priorities Committee to the President. This report shows the position of the University budget one year later and contains some comments on conclusions reached and lessons learned in the intervening period.

Whereas Section I deals with the process of annual budgeting, and Sections II and III describe the results of that process for 1971-72 and 1972-73, Section IV deals with program budgeting and long-range planning. While it contains references to the discussion of the annual budget cycle, and is intended to complement it, we have tried to make this section more or less independent of the earlier discussion so that it can be read on its own by people who are interested mainly in the applicability of program budgeting to universities. This section contains some tables and calculations showing the distribution of expenditures and income among broad program categories; however, as in the first section, we are more interested in describing a general approach than in trying to present "hard data" on the economic characteristics of universities.

Finally, a word about those aspects of our work on resource allocation which are not included in this report. In addition to the work on budgeting which is reported here, we have done special studies on: (1) planning for coeducation; (2) teaching methods and teaching loads at ten colleges and universities; (3) class size and precept size at Princeton; (4) the definition of endowment income and the treatment of capital gains; and (5) the economics of dining and dormitories at Princeton. Brief mention is made here and there of some of these special studies, but it did not seem worth reproducing them here because they are more specialized in character.

* * * * * *

This has been very much a collaborative effort, as it continues to be, and we shall mention in this acknowledgment only those individuals who have been most directly involved in the project. First, we are indebted to Ricardo A. Mestres, Financial Vice-President and Treasurer of Princeton until July 1972, for his support, encouragement, and especially, insight into the subtle relationships between the academic and administrative sides of a university. Second, we wish to record our thanks for the help rendered by our research colleagues in the Office of the Provost: Elaine Britt, who did a great deal of the work on program budgeting; Irene Goldfarb, who did most of the programming on CAFSIS and in connection with the program budget; Sandor Legrady, whose exceptional programming abilities enabled us to move from general concepts to an operating system; James Mnookin, who did many of the special studies and who also played a central role in the

work of the Priorities Committee; Mary Procter, who worked particularly on the economics of dormitories and food services; Richard Spies, who has also worked on a variety of special projects; and John Young, who did much of the programming connected with space utilization. Third, we want to express our appreciation to those persons in other offices whose patience we tested so sorely on many occasions: Bruce Finnie, Registrar; James Litvack, Assistant Dean of the Faculty; John Ostrom, Associate Controller and Associate Director of the Budget; Wilbur Young, Controller; and the staff of Princeton's Administrative Systems and Data Processing Office. Finally, we want to thank the members of our clerical and administrative staff for service and forebearance beyond the call of duty: Sally Danko, Doris McBride, Velga Stokes, and Cleo Walter.

Princeton, New Jersey
June 1972

I. THE BUDGETING PROCESS AT PRINCETON

A. Preamble: The Functions of a Budget System

At the outset a few words need to be said concerning our conception of the functions of a budget system and how this conception relates to the emphasis of this section of our report. We begin with the premise that a budget system is an instrument that must serve three principal functions in connection with decisions on the allocation of the resources expected to be available in the budget years:

1. It must facilitate the formulation and making of such decisions.
2. It must be capable of recording them.
3. It must be usable for the execution of these decisions during the budget year.

Our principal concern in this report is with the first function, and we shall have little to say about the latter two functions, important as they are. The functions of recording and executing the budget are among those traditionally performed by the Controller, for it is the Office of the Controller that records the allocations made to each of the budgetary units, maintains the accounts for each unit, and in general sees to it that funds are spent only for authorized purposes. Then, the process of executing budget decisions leads naturally into reporting the financial results at the end of the budget year. These are essential functions which must be performed by any institution in controlling the resources that pass through its hands, and in the course of our own work we have become increasingly aware of how crucial it is that these tasks be done well. Still, they have little to do directly with the quality of the allocation decisions themselves, and it is the process of formulating and making these decisions which concerns us most. This emphasis is based on the conviction that at most universities it is the process of arriving at budget decisions, not the process of recording and executing them, that most needs improvement.

However, we warn against overstating the separateness of these functions. While it is possible to distinguish functionally between the tasks of the Controller and the tasks of those charged with determining the content of the budget, it is imperative that there be the closest possible coordination between the functions. In fulfilling the first function, a budget system must pose questions of allocation in a manner susceptible to analysis and interpretation in terms of the goals of the institution as these may be reflected in the budget year. The budget system must also pose these questions, however, in such a way that, once answered, the decisions reached can be implemented through the administrative machinery of the institution. This simple and rather obvious point deserves emphasis because it is so tempting to ignore the constraints that such concern for implementation imposes on the decision-making process. Giving in to this temptation can involve heavy costs. This is one of the first lessons we learned, and it seems worth stating it, even in general terms, before beginning our detailed discussion of the budgeting process at Princeton.

B. Budgeting in the 1960's

The point of departure for our work on university budgeting was the budget system in use at Princeton in the 1960's. We shall first describe this system, paying particular attention to the time schedule and the location of decision-making responsibilities, and then comment on its strengths and limitations and the reasons why some changes seemed necessary. While we have made no attempt to survey budget-making processes at other colleges and universities, our impression is that many other institutions followed procedures roughly similar to the ones outlined below, at least until the last few years.

Description of the Process

The fiscal year at Princeton runs from July 1 to June 30, and each fiscal year is referred to in terms of the calendar year in which the fiscal year ends. Thus, we refer to the period July 1, 1967 - June 30, 1968, for example, as "Fiscal Year 1968" or simply as "FY 68."

During the 1960's the annual budgeting cycle lasted about ten to eleven months. It began in the latter part of the summer preceding the fiscal year, went on throughout the academic year, and ended in June, shortly before the start of the fiscal year. Major decision-making responsibilities inside the University rested almost exclusively with three individuals: the President, the Dean of the Faculty, and the Financial Vice-President and Treasurer. (The position of Provost was established in the spring of 1966, and the Dean of the Faculty was the first incumbent, holding both positions simultaneously until July 1967; however, the establishment of this new position did not really affect the budget-making process prior to the spring of 1968, when work began on the budget for Fiscal Year 1970.)

In general outline, the budgeting process went as follows:

--During the summer the Controller and the Financial Vice-President and Treasurer estimated the amount of new income that would be available in the next fiscal year. This estimate was the sum of a number of components: how much new endowment had been received; the expected increase in the yield on existing endowment; expected reimbursements of indirect costs for sponsored research (which rose steadily throughout the early and middle 1960's); any anticipated increase in income from tuition and student charges; and, finally, some estimate of increased gifts to be used for current purposes. These were all very rough estimates. Together they constituted the pool which had to cover the major budget increases for the year. It sufficed to think in terms of this simple identity between incremental increases in income and in expenditure because the operating budget in the previous year was almost always more or less in balance during the 1960's.

--Meanwhile, the Dean of the Faculty was studying AAUP figures and other data to arrive at a determination of the size of the salary increase pool to be recommended for the faculty for the budget year. His assessment of the salary situation was discussed with the President and the Financial Vice-President and Treasurer, and a recommendation concerning the size of this pool was then made to the Finance Committee of the Board of Trustees for its approval at a meeting held early in the fall (usually in November). After action by the Finance Committee of the Board, the Dean of the Faculty informed departments of the limits within which they were to make salary proposals for individuals. Thus, a firm decision of the overall amount of salary increases for faculty preceded all other expenditure decisions.

--Next, the Dean of the Faculty reviewed all requests from academic departments for new tenure positions, to be filled either through promotion or through appointment from outside the University. Requests for new positions, supported by narrative memoranda, had to be made by academic departments no later than October 15, and replies to these requests were expected shortly after the announcement of salary increase pools. Having completed his review of all proposals for new tenure positions, and having also reviewed openings previously authorized but as yet unfilled, the Dean of the Faculty consulted with the President and the Financial Vice-President and Treasurer, but principally with the former, and departments were then told what new tenure positions were authorized for the coming year. This was the second main category of expenditures to be settled, and in this case the decisions taken were not submitted to the Finance Committee of the Board for approval.

--In a separate and less formalized process, carried out at various times throughout the year, academic departments made requests for additional manpower at the non-tenure level. The Dean of the Faculty judged these requests on the basis of his long-standing knowledge of the departments and on the basis of statistics concerning enrollment trends, leaves of absence, and so on, which he maintained in his office.

--Salary pools for non-academic staff were usually determined during January on the basis of a recommendation by the Director of Personnel, a review by the Financial Vice-President and Treasurer, and a decision by the President. These salary pools were then translated into recommendations for individuals through a process administered by the Director of Personnel. Individuals were notified of salary actions in June.

--The remainder of the budget of each academic department to be charged to general funds, consisting mainly of requests for administrative and clerical personnel and operating expenses (telephones, stationery, etc.), was settled through a series of personal interviews between departmental chairmen and the Financial Vice-President and Treasurer, who was aided by the Controller and the Director of Personnel. These interviews took place during March and April. (No mention is made here of budgetary provision for professional research and technical staff since there was no control over such positions in the form of authorized slots, the only rule being that such staff could not be appointed, except in very special circumstances, unless they were charged directly to research contracts or restricted funds.)

--The budgets of the Library, the Compter Center, and all administrative departments were also determined by the Financial Vice-President and Treasurer, through a series of meetings with department heads, and these meetings normally occurred during April and May. In the case of the Library, the Financial Vice-President and Treasurer consulted with the Dean of the Faculty; in the case of the Computer Center, he consulted with the Chairman of the University Research Board and the Dean of the Graduate School; and, more generally, he discussed all important questions of policy with the President.

--Expenditures for undergraduate student aid were determined separately from the operating budget of any department or group of departments by the Financial Vice-President and Treasurer on the basis of a recommendation by the Director of the Bureau of Student Aid. Again, any major policy questions were brought to the attention of the President.

--Similarly, the Dean of the Graduate School made recommendations concerning fellowship and scholarship support for students under his jurisdiction, and these recommendations were reviewed and acted on by the Financial Vice-President and Treasurer, in consultation with the Dean of the Faculty and the President if this seemed appropriate.

--Decisions on tuition, room rent, and board charges were made during the course of the year as adjustments seemed necessary; however, every effort was made to announce these decisions early enough to include them in materials sent out to prospective students. Responsibility for making a recommendation concerning tuition rested with the Financial Vice-President and Treasurer, who always discussed a matter of this importance with the President. Formal approval by the Board of Trustees was also required in the case of increases in tuition. Recommendations concerning other charges usually originated with the operating departments (Dormitory and Food Services, Real Estate, and so on) and were then reviewed by the Financial Vice-President and Treasurer and the President.

--Throughout the year, the Controller kept track in gross terms of the commitments that were being made against the new income that had been assumed at the beginning of the year. He reported periodically to the Financial Vice-President and Treasurer, who used these reports as rough bench marks in evaluating budget proposals.

--At the beginning of May, the results of all the decisions concerning the budget for the fiscal year to begin on July 1 were collected, department by department, by the Office of the Controller. They were combined with the associated income into an extremely detailed document titled "The Princeton University Budget." This document, suitably summarized, was presented to the Finance Committee of the Board of Trustees for formal action at its May meeting. Usually, the Committee had seen and approved a rough preview of the budget at its April meeting. The complete version of the budget, containing line-item detail (including individual salaries and the accounts to which they were to be charged), was then used to monitor expenditures during the fiscal year.

--Finally, it should be noted that throughout this entire process, but separate from it, requests for capital needs and for building space associated with budget requests were collected and dealt with in terms of the special funds available for these purposes. In particular, the major maintenance of University buildings was budgeted against a separate account, fed by annual contributions on a formula basis from the operating budget.

This rather cryptic summary ignores many aspects of the budgeting process which are of considerable importance, including the nature of the data used to evaluate budget proposals and the nature of the information system used to generate raw data and to record decisions. Also, it fails to record a number of improvements made in the system, and especially the fact that during the 1960's important steps were taken to transform what had been a manual system of accounting into a partially automated system. Still we believe that the above summary conveys a sufficient sense of the principal features of the budgeting process in being when this study began, to permit comment and evaluation.

Comment and Evaluation

The budget system used prior to FY 70 had a number of important advantages, some of which we have come to appreciate fully only after having changed the system in significant respects.

First, it was simple and free of frills. Decisions were made, recorded, and executed at minimum cost in terms of both time of individuals and dollar outlays for computers, supplies, and so on. The system made very few demands on faculty members -- including departmental chairmen -- and almost none on students.

Second, responsibility for decisions was located clearly in the Dean of the Faculty, the Financial Vice-President and Treasurer, the President, and, ultimately, the Board of Trustees through the Finance Committee. There was no bureaucratic confusion, no ambiguity about who was meant to decide what, and no opportunity to shift the onus for unpopular decisions.

Third, the timing of particular decisions was based on when they were needed (faculty manning early in the fall, in advance of the recruitment season, expense budgets much later in the year, etc.). This feature of the system made it possible to spread the budgeting work throughout the year while at the same time meeting the needs of the heads of departments for decisions geared to their schedules.

The principal disadvantages of the system in use during most of the 1960's can also be summarized readily. In the main, they are the obverse side of the features noted above.

The spreading of decisions through the whole of the year meant that the various sorts of requests could not be treated as competing claims against an overall limit of available resources. The rather sharp division of responsibility between the Dean of the Faculty and the Financial Vice-President and Treasurer, with the Dean of the Faculty making recommendations on the academic side of the University and the Financial Vice-President and Treasurer on the non-academic side, also discouraged a single review by a single group of all claims on University resources. (This disadvantage was muted, however, in the case at hand, by frequent informal consultations and by an exceptionally good personal relationship.)

Any system which does not permit more or less simultaneous consideration of all major budgetary proposals will suffer from some tendency to respond to requests in part on the basis of their timing. Depending upon the mood and nature of the administrators operating the system, early requests might receive favorable treatment because funds seem to be available, with late requests being treated more harshly because of commitments already made. In a more conservative administration, on the other hand, the early requests may fare more poorly than the late ones since the more conservative administrator will tend to hold back early in the year and be more generous later on, when it is clearer that some margin still remains.

Another disadvantage of the seriatim nature of expenditure decisions, culminating in an overall budget statement showing total projected expenditures and income no sooner than the April preceding the start of the fiscal year, is that if the overall budget picture revealed by the April totals is unacceptable, the opportunities to make adjustments are severely limited. This can be a serious problem, as revealed by the experience at Princeton in preparing the budget for the fiscal year which began in July 1967.

In April 1967 a rough compilation of the budget decisions made in the course of the previous eight months showed a projected deficit which the members of the Finance Committee of the Board of Trustees judged to be too large. The Financial Vice-President and Treasurer was instructed to make further cuts before bringing the budget back to the Committee for approval the following month. There was not a great deal he could do, however, except reduce projected office expenses in various departments, rescind authorizations for some non-academic positions, mostly in the clerical areas, and defer certain projects to be undertaken by the Department of Planning, Plant, and Properties. Continuing faculty members had already been told what salary increases they would receive in the coming year, the recruitment of new faculty was already completed, the process of allocating salary increases to non-academic personnel was so far along that it would have been exceedingly difficult to alter, even if that had been thought possible from a morale standpoint when faculty salary increases were to be spared a second look, and it was much too late to consider any major programmatic changes. In short, the characteristics of the budget process permitted only tinkering with the edges of the budget and with items that happened to be handled late in the budget cycle.

Implicit in what has already been said is another limitation of the budget system existing at Princeton when we began this study: it was not constructed along programmatic lines. The structure of the expenditure and income categories was not conducive to considering budget requests in terms of overall programs of teaching and research. Instead, the categories were determined by the location of administrative responsibilities for certain functions such as the maintenance of all of the physical plant, the oversight of all housing, and so on.

Finally, the budget system described above did not encourage any general sense of participation in decisions on resource allocation nor did the process itself do much to build understanding within the University of the financial circumstances of the institution. This characteristic is the offset to the advantages associated with an informal process which is also highly centralized.

We do not believe that it is sensible even to ask whether, as a matter of general principle, the advantages or the disadvantages listed above predominate. Although we do believe that any budget system must serve the three functions listed in the Preamble to this section, and that it is possible to state general propositions concerning the theory and practice of budgeting, we are convinced that the correct inferences will vary from institution to institution and, within a single institution, from time to time. Institutions are groupings of people, with traditions and customs and a variety of interests. A system which facilitates the formulation and making of budget decisions must be responsive to the social and economic setting which is to receive it. This is to say nothing more than that it must serve the needs of the particular institution at the particular time in question. These needs are a function of the general economic climate, the specific financial situation then prevailing, the rate and pervasiveness of changes in educational programs, and the nature of the decision-making process within the institution.

In the context of Princeton in the 1960's, we think that a strong case can be made in favor of the budget system described above, however much it may have varied from the generally accepted textbook model. It was well suited to the economic circumstances of the period, to the nature of the changes occurring within the University, to the generally accepted views regarding University governance, and to the particular administrative pattern which had evolved at Princeton in the years after World War II.

To begin with the economic setting, it seems fair to describe the period of the 1960's (with the exception of the last year or two) as a time of relative abundance of resources. From 1957 through 1968 the University raised more money, both for capital needs and current purposes, than it had raised in its entire previous history. Except for one or two years (1967-68 was discussed above), the budget was balanced or showed a slight surplus in spite of substantial increases in expenditures.[1/] The result was a dramatic increase in faculty salaries, a marked increase in the faculty-student ratio as new appointments were made, and the general strengthening of programs of study and research, especially at the graduate level. No educational institution made up of aggressive and ambitious people, convinced of the importance of what they are about, ever has enough resources to do all that seems necessary -- let alone simply desirable. Nevertheless, the volume of new funds obtained during this period was such that really difficult and painful allocation decisions were unnecessary. The basic questions were which new requests to grant, and in which order, not which activities to curtail. There was usually enough money to approve important requests, even if they came late in the year. In this setting, there was much to be said for a relatively simple decision-making process. There was no felt need for a procedure which would emphasize at each step along the way intense competition for very limited resources.

This was also a period in which the development of the University largely took the form of increases in the depth and quality of established activities. With two important exceptions -- the virtual doubling of the size

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[1/] See Figure 1 in Section II of this report for a year-by-year summary of expenditures and income from 1959-60 to the present.

of the Graduate School and the rapid growth of sponsored research -- there were no University-wide developments which required a detailed analysis of their implications for all budgetary units. This feature too made it possible to get along without an elaborate system of financial analysis. (It is interesting to note that one of the two principal exceptions to this generalization, the growth of the Graduate School, also caused an unusual number of problems. The expenses associated with this development tended to be underestimated, and they were never brought fully under control, in part because there was no real system for doing so.)

With regard to the nature of governance during the 1960's, and its relevance to budget-making, the main thing to be said is that this was not the era of participation. Faculty and students were not interested, by and large, in participating in decisions of the kind involved in the budget process. There was, of course, a great deal of informal consultation, especially between the Dean of the Faculty and the President, on the one hand, and departmental chairmen and faculty advisory committees, on the other. But there was no general desire for the kinds of formal mechanisms for faculty and student participation that have been developed in recent years. For this reason, and because of the particular individuals who happened to be involved, the centralization of responsibility for budget-making and the lack of a more elaborate process for reviewing proposals were thought to be good things. In retrospect it seems clear that the lack of interest in broader participation was also due in no small measure to the economic circumstances. So long as it was financially possible for most decisions to be "positive" ones, there was relatively little incentive for faculty and students to get involved.

No account of the reasons why the budget system in use at Princeton during the 1960's fit the setting would be even tolerably accurate if it did not emphasize the roles played by two individuals: the Financial Vice-President and Treasurer and the Dean of the Faculty. The "personal diplomacy" which characterized the budget system during this period was possible in large part because of the long periods of service and unusual personal qualifications of these two men.

The Financial Vice-President and Treasurer started with the University in 1946 and brought to his duties an encylopedic knowledge of the finances of the University, down to the smallest detail, a remarkable intuitive sense of what the whole budget would look like when the dust had settled, and a capacity to made decisions and accept responsibility for them. The Dean of the Faculty served in that position for twenty-one years and before that had been a student at the University and then a member of the faculty. All but a relatively small number of the faculty had received their appointments during his tenure as Dean and he knew them well as individuals and as colleagues. This knowledge, as well as his understanding of the dynamics of each department, served him immeasurably in making recommendations concerning new tenure slots and departmental manning in general. In short, the Financial Vice-President and Treasurer and the Dean of the Faculty together possessed a fund of knowledge and a sense of the University that permitted them to make decisions without much of the formal paraphernalia or procedures that otherwise would have been needed. They also provided a continuity and stability in the administrative structure which, in the absence of a more formal set of budget arrangements, were indispensable. The situation at Princeton in the 1960's is a good illustration of the importance of tailoring any administrative organization to the personalities and qualifications of the principals.

The Need for a More Systematic Budget System

By the time this study was begun (spring 1968), every one of the factors noted above had changed in important respects. And all of the changes pointed to the need for a much more systematic budget system in the 1970's.

First, the period of relative affluence in university finance came to an end. Moreover, we had been convinced in the spring of 1967, somewhat before the "financial crisis" was as widely discussed as it is now, that it was no temporary, one-of-a-kind, shortfall in resources that had to be countered. For reasons explained in detail in The Economics of the Major Private Universities, we concluded that a new budgeting system had to be developed which could cope with what promised to be a growing gap between needed expenditures and available funds. Unhappily, this prognosis has come true, and with a vengeance. Indeed, events not anticipated fully when our report was written in the spring of 1967 (the cutback in the rate of increase in Federal support, especially for research and student aid, the sharp drop in stock prices, and the general increase in tension between university communities and potential supporters) have made immediate financial problems even more serious than we forecast. In this setting, it is essential to have a budget system which forces the simultaneous comparison of all budget requests and facilitates the making of painful decisions.

More systematic methods of analysis and planning were also required at Princeton at this particular time because of the strong interest in including women students in the undergraduate college. Unlike many of the developments that had occurred at Princeton in the 1960's, this proposal was bound to affect the entire University. Thus, the financial implications of coeducation required a more thorough and systematic analysis than that given to earlier changes in the educational program.

At about the same time there was also mounting interest at Princeton, as at many other colleges and universities, in new forms of participation by faculty and students in the decision-making process. It was obvious that broader participation in the processes of budgeting and planning would be possible only if there were a more formal system of budgeting and planning which made it possible for individuals who had not been immersed in all the detail of University finances to consider the major alternatives and their implications.

Finally, the retirement of J. Douglas Brown as Dean of the Faculty and Provost in June 1967 had meant that the University could no longer draw on the accumulated knowledge and experience of one of the two individuals whose presence had made possible the kind of informal budget system then in being. The case for developing a system which would be less dependent on the personal knowledge and judgment of any one person was strengthened by recognition of an important fact: in recent years terms of office for senior administrative officers of the length of Dean Brown's have become an increasing rarity. In such circumstances, an established system is the only way to avoid chaos as responsibility transfers from one person to another.

C. The Budgeting Process at Present

A Brief Review of Work on the Budgeting Process Between 1969-70 and 1971-72

For the reasons outlined above, we decided in May 1968, at the outset of this project, that the need for reforms in budgeting procedures was so acute that we should make a crash effort to develop a system through which the budget for 1969-70 could be processed. We thought that the obvious risks -- disrupting established procedures before new procedures had been subjected to pilot tests, introducing changes without adequate explanation, and, in general, trying to do too much too fast -- were outweighed by both the immediate need for a more rigorous evaluation of budget requests and the prospect of learning from whatever mistakes we made.

The principal objectives of this initial effort were:

1. To revamp the budget schedule to permit simultaneous consideration of all major competing claims on resources;

2. To establish review and decision procedures that would ensure that the same group would evaluate all competing claims;

3. To develop a system for collecting and assembling budget data at various levels of aggregation which would make it possible to compare all budget proposals for FY 70 with actual results for FY 68 and budgeted income and expenditures for FY 69;

4. To provide a means for analyzing faculty manning in all departments in the context of standardized measures of teaching requirements.

In the main, these objectives were achieved. Except for some problems related to the treatment of sponsored research and certain restricted funds (noted below), we were able to make explicit comparisons of at least a rough sort among all competing claims for University funds before any commitments were made. By forcing a much earlier timetable for budget submissions, making use of automated methods of data collection and summarization, and obtaining crude income projections about ten months before the start of the next fiscal year, it was possible to work with some "trial budgets" as early as November. The earliest versions of the budget for 1969-70 revealed very substantial projected deficits -- as much as $4 million. These projections in turn led to substantial reductions in planned expenditures in many departments and the adoption of a much tighter budget. And, by being able to reach these decisions in November and December, we were able to tell departments what to expect far enough ahead of time to permit them to adjust tolerably well to their straitened circumstances.

The drastic change in the schedule of the budget process which permitted the above results would have been impossible without the introduction of a number of new forms and procedures. In spite of the haste with which much of this work had to be done, some of the forms and procedures adopted initially have been retained. In most respects, however, significant modifications have had to be made, and since we will describe below what we now believe to be most useful along these lines, no good purpose would be served by a detailed recounting of which elements were preserved and which were discarded.

More generally, there is no reason to say any more about what went "right" with the first round of our work aimed at improving budget procedures. There is, however, every reason to discuss two major mistakes made at this time, since there are important lessons to be learned from each.

The first major source of difficulty stemmed from a decision, made in the interest of simplicity, to exclude certain offsetting items of income and expense from both sides of the budget. Direct expenditures for sponsored research were by far the largest item of this kind (about $23 million in FY 70). It was assumed, as had been the practice in previous years, that such expenditures would be matched on an in-and-out basis by income from grants and contracts earmarked for particular projects. The totality of expenditures for sponsored research had to be estimated so as to provide a basis for estimating reimbursements for indirect costs (an income item), but the direct expenditures themselves and the associated income were excluded from the budget summaries. Two other smaller items were also excluded from both the income and expense sides of the budget because of the Controller's traditional way of handling the funds that constituted these exceptions: restricted library book funds and funds restricted for student aid. Because of these exceptions, the dollar totals with which we worked in preparing the budget for FY 70 were in the $42 to $45 million range, whereas the total University budget ended up in the $76 to $77 million range.

In adopting this approach, the critical assumptions we made were that excluding these offsetting items would: (a) simplify the budget-making process without affecting the projected deficit (or surplus); and (b) permit the same evaluation of other budget entries that would have occurred had we been working with the real totals. Both of these assumptions turned out to be bad ones.

The difficulty with assumption (b) was that as we tried to make harder assessments of the general funds that could be appropriated to specific purposes -- e. g., library book purchases or purchases in an academic department -- it was highly desirable to know the total resources likely to be spent for the objective in question. And without including the anticipated expenditures from sponsored research funds and from the two sets of restricted accounts, this was impossible in some instances. Thus, even though the overall budget totals may not have been affected by these exclusions, the absence of a complete picture made it difficult to make the kinds of programmatic judgments in areas such as student aid that are now an important part of the budgetary process. In a period when resources were fairly readily available, and especially when sponsored research funds and restricted funds increased each year, such careful coordination was far less necessary and might not even have been worth the trouble needed to bring it about. Needless to say, that has not been the situation in the 1970's.

Assumption (a) -- that the overall deficit or surplus would not be affected by these exclusions -- proved to be a source of even more serious difficulty, in large part because it was but one aspect of our second major mistake: we did not establish procedures guaranteeing sufficiently precise linkages between the data bases used for our analysis and the data bases and accounting conventions used by the Controller. We paid dearly for this error in approach, the consequences of which were observable only at the end of FY 69. At that time the books were closed on 1968-69 and a line-item budget for FY 70 was generated by the Controller's Office. None of us had expected the resulting figures to gibe exactly with the estimates for 1968-69 (the current year) or the projections for 1969-70 (the budget year) with which we had been working for the previous ten months. But neither had any of us expected differences of the magnitude revealed by these year-end comparisons: for the current year, the final figures showed a modest surplus of approximately $300,000 instead of the deficit of $1.7 million estimated earlier, and for the budget year, which was even more relevant from our standpoint, the line-item calculations of the Controller showed a projected deficit of just under $200,000 instead of the deficit of $1.5 million projected earlier.

Our failure to "marry" fully the new budgeting concepts and the old accounting concepts meant that we had to spend an extraordinarily frustrating period of about two weeks reconciling the two sets of data. Actually, it became evident rather quickly that the great improvement in results for the current year (1968-69) was due mainly to some once-and-for-all developments that had little to tell us about the future. (In particular, there had been a sharp increase in Annual Giving late in the year, Government reimbursements of indirect costs were higher than had been expected, and the acquisition of an important piece of real estate meant, altogether, an increase in income of about $750,000. On the expenditure side, the budget for Planning, Plant, and Properties was underspent by almost $900,000, principally because two major new additions to the physical plant, the Mathematics-Physics complex and

Jadwin Gymnasium, had not opened on schedule, and unfilled vacancies accounted for the other savings.) It also was evident more or less right away that the marked improvement in the outlook for the 1969-70 budget year was due almost entirely to increases in income that were largely exogenous to the budget-making process. (In particular, the University concluded an agreement to sell computer time to the Geophysical Fluid Dynamics Laboratory, the estimate for Annual Giving was raised in light of the favorable experience in the current year, and the estimate for Government reimbursements of indirect costs was also revised upward, these actions together adding over $1 million of expected income.)

In spite of the fact that it was possible to explain the major sources of discrepancy rather easily, we were determined to account for the differences in detail and to understand offsetting changes as well as those that pulled in a single direction. Only in this way could we be sure we understood what was going on as a basis for devising ways of improving the situation into the future. And pursuing the reconciliation of the two sets of data in such detail did yield important insights, including: (1) a much better understanding of the cycle whereby vacancies occur in certain departments -- for example, in the Library, when spouses of graduate students depart -- and then are filled after some lapse of time; and (2) a recognition that excluding sponsored research expenditures and income did in fact make it much more difficult to estimate the deficit accurately.

Without actually going through the process of budgeting on a partial basis it is hard to realize how many situations arise in which ignoring what are thought to be offsetting items causes trouble. For example, it is hard to estimate the cost to general funds of a proposed salary pool expressed as a given percentage of base salaries without detailed knowledge of salaries for particular categories of personnel charged to sponsored research budgets as well as to general funds. Also, we misestimated the cost of leaves of absence because of a failure to take account properly of the share of these costs borne by sponsored projects. Indeed, it proved to be very difficult to take account of many interactions between direct charges and reimbursements for indirect costs in the absence of a unified budget.

Much more important than any of these specific insights, however, was the general lesson learned about the need for far closer cooperation and coordination with the Controller. As is noted below, we subsequently made an important organizational change as a result of this lesson.

To complete the story of what happened to the budget for FY 70, after the new estimates for income and expenditure were checked thoroughly, we decided to recommend a further round of salary increases for faculty and staff. Salary increases included with the original budget proposals had been very small, in keeping with the "austerity" budget being constructed, and the more favorable immediate financial outlook enabled us to do better on the salary front. The additional round of salary increases, combined with more sophisticated estimates of savings likely to be achieved because of vacancies unfilled for part or all of the year, led to a revised projection for FY 70 of a deficit of approximately $600,000. Thus, we ended up with both larger salary increases and a smaller deficit than originally anticipated.

This relatively happy conclusion should not, however, be allowed to obscure the unsatisfactory nature of this final episode in the 1969-70 budget process. Apart from the enormous amount of work entailed in reconciling the different sets of numbers, the episode was unsatisfactory for more fundamental reasons. First and most important, intelligent planning and policy-making simply cannot occur when fluctuations of this magnitude are experienced. If we had known in November -- or even in February -- what we were to learn in June, we would have been in a better position to make conscious decisions concerning the allocation of the additional sums available. Our belief is that the decision to put the additional sums into salary increases, which was reached in June and July, is also the decision which would have been reached had the improved income projections been available sooner. Thus, it can be argued that we ended up in essentially the same place. This does not alter the fundamental point, however, and we left the 1969-70 budget exercise determined to do a better job of projecting income and expenditures in preparing the budget for FY 71.

A second difficulty with the kind of major shift in financial expectations which occurred in June 1969 deserves explicit mention: variations of this magnitude, especially in the favorable direction, can undermine seriously the confidence of faculty and staff in the integrity of the entire budget-making process. It is natural for departments being asked to economize to suspect that an excessively gloomy picture is deliberately being painted to hold down requests; and an experience such as occurred in June 1969 is bound to strengthen such interpretations. For this reason, too, we were determined to improve the accuracy of our projections.

Five specific steps were taken. First, we never again worked with a "partial" budget excluding direct expenditures on sponsored research and certain restricted funds. By including all anticipated expenditures and sources of income from the beginning, including sponsored research, we forced ourselves to worry about the consistency of the whole set of estimates. Second, we established a regular schedule for projecting income *and then for reviewing and if necessary revising* the original estimates. Third, with regard to expenditures, we developed a system of monthly reports on vacancies as one way of monitoring this important source of variation between budgeted figures and actual results. Fourth, we made a number of programming changes to insure consistency of data bases. Fifth and most important of all, we established a new position of Director of the Budget and appointed to it a person who would oversee the entire process, from start to end, and who would have some supervisory responsibility for the section in the Controller's Office working on budgetary matters.

This last organizational change was accompanied by a major effort on our part to do a better job of communicating with the Controller's Office concerning what we were trying to accomplish and to enlist their active help and cooperation. Much of our early difficulty stemmed from trying to move too quickly, and without adequate consultation, from the tradition of conservative budgetary estimates (whereby the Controller tended to be cautious in estimating income and to treat maximum exposure as the measure of likely expenditures) to a new mode of projecting in which a premium was put on being as accurate and as up-to-date as possible.

This fairly extensive account of parts of the 1969-70 budget process has been presented here because of the general lessons which it seems to reveal. The 1970-71 budget process, on the other hand, was sufficiently similar to the process followed in working on the 1971-72 budget (described in detail below), that almost no special comment is necessary. Suffice it to say that in developing the budget for 1970-71 we improved various forms and procedures, as well as some of the computer programming, we worked with a complete budget including sponsored research from the beginning, and we managed to do a far better job of projecting. The final results for 1969-70 were within about $300,000 of what we had expected, and the budget projections for 1970-71 were revised frequently as more recent information became available.

Perhaps the most important new development associated with the preparation of the FY 71 budget was the establishment of the Priorities Committee -- a carefully chosen group of faculty, students, staff members, and administrative officers charged with advising the President on resource allocation. The Priorities Committee has continued to serve as the principal organizational vehicle for discussing major budgeting alternatives in some detail as well as related issues of policy, and its workings are described in detail below.

The other thing to be said about the budget for FY 71 is that, in its final form, it envisioned a deficit of $2.5 million. This was by far the largest deficit ever projected at Princeton, and, while those of us involved in the preparation of this budget saw no acceptable way of doing better for 1970-71, we also knew that we simply had to do better for 1971-72. It was against this somber background that work began on the FY 72 budget.

The Budgeting Process for 1971-72: Objectives and Time Schedule

Objectives. -- Just how much better we had to do for FY 72 became very clear right away. On the basis of crude preliminary projections made in late summer of 1970, it seemed likely that the $2.5 million gap between income and expense projected for FY 71 would widen to something like $4.5 million in FY 72. These projections were hypothetical -- they were made before any of the spending requests were in hand, and they presumed a set of judgments (not yet in fact made) about tuition levels and other important determinants of income -- yet they looked disturbingly believable. Our first and overriding objective, then, was to reverse the all-too-evident trend toward larger and larger deficits, if this was at all possible.

A second major objective was to develop a provisional plan for several years into the future. Indeed, it was apparent that such a plan would be necessary to accomplish the first objective. This was true because the budget deficit was so large that it seemed highly unlikely that it could be eliminated in a single year, under any reasonable assumptions about either increased income or curtailed expenditures. Also, decisions to commit funds in one year -- for scholarships for entering freshmen, for example -- could no longer be made without explicit consideration of our ability to spend more money in later years in fulfillment of such commitments. More generally, it was evident that our financial problems were of a long-range nature and could be dealt with sensibly only in the context of a multi-year plan.

Finally, two quite different factors led us to adopt the objective of continuing and broadening the participation of faculty, students, and others in the budget decision-making process. First, the financial situation was so serious that very difficult choices would surely have to be made, and a broader range of informed judgment and opinion brought to bear on the issues ought to result in better decisions. Second, the review process could hardly fail to result in at least some curtailment of programs;

broader participation in decisions would, we hoped, lead to more widespread understanding of both the choices before us and the decisions reached.

The Priorities Committee. -- The organizational instrument used to facilitate consideration of the FY 72 budget was the Priorities Committee, which had been established a year earlier as one of the charter committees of the Council of the Princeton University Community. The Committee's membership mirrors the membership of the parent Council; faculty, graduate students, undergraduates, and members of the administration and staff are all represented.[1/] The Priorities Committee has no legislative power, but is charged simply with making recommendations to the President, who may accept, reject, or modify them. However, it was generally understood that the recommendations of the Committee could carry considerable weight -- depending on the degree to which various members of the Committee were prepared to support them and on the cogency with which they were stated. In addition to advising the

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[1/] To be more specific, the membership of the Priorities Committee was defined by charter as follows: three *ex officio* members from the central administration (the Provost, serving as chairman, the Financial Vice-President and Treasurer, and the Dean of the Faculty); six faculty members (with at least one from each of the four divisions of the University and at least one with a non-tenure appointment); four undergraduates; two graduate students; and one person representing "other groups" (the library staff, the athletic department, professional research staff, etc.). In addition, the Charter specified that the President of the University, the Director of the Budget, and the Vice-President for Development were to meet regularly with the Committee. The Committee itself, acting in consultation with the Executive Committee of the Council (which nominates all members who do not serve *ex officio*), requested three other administrative officers to meet with it: the Associate Provost for Resource Planning, the Executive Director of Administrative and Personnel Services, and a member of the Office of the Provost who served as Secretary.

President, the members of the Committee were also expected to serve as important two-way channels of communication with the wider University community.

The work of the Committee on the FY 72 budget and the provisional plan for the years through FY 74 is discussed in considerable detail in Section II of this report, which consists of the full text of the Committee's report to the President. The remainder of this section describes in some detail the processes and procedures which lay behind that report and the recommendations contained in it. Most readers will probably find it best to stop at this point, go on to Section II and read the text of the 1971-72 Report of the Priorities Committee to the President if they are not already familiar with it, and then come back and continue with this account of the methodology employed.

Outline of the Budgeting Process and its Time Schedule. -- The next few pages are intended to provide a chronological overview of the entire budget process. The timing and the interrelation of the various elements of the budget process are so important that it seems in order to provide a fairly detailed account of when various things were done.

	Time Period		Activities
I.	July 1 - September 15, 1970	1.	Update computer files and modify programs as necessary; prepare budget instructions.
		2.	Conduct preliminary studies: for example, make estimates of the impact of additional entering freshman women on the likely course enrollments in each department.
		3.	Prepare crude hypothetical projections of income and expense for the years ahead; present these to Priorities Committee in early September.

4. Committee recommends stringent budget guidelines to department chairmen based on initial studies and projections. (Guidelines issued by Provost on September 15 -- see II. 1 below.)

5. Refine estimates of income from sources not directly controllable in the budget-making process, such as endowment, gifts, and U. S. Government grants.

6. Establish committee of senior members of the administration to begin immediately to review personnel vacancies to determine which might remain unfilled -- at least until the budget review is completed.

II. September 15 - October 8, 1970

1. Provost issues budget guidelines to all departments on September 15. Budget forms and instructions follow shortly thereafter (September 21). (A copy of the guidelines is included with the 1971-72 *Report of the Priorities Committee* as Appendix C; a copy of the budget instructions is included with this report as Appendix A.)

2. Departments complete the forms and return them by October 5.

3. The returns are processed and summarized centrally to arrive at "first round" expenditure and income totals.

III. October 8 - December 17, 1970

1. Priorities Committee holds numerous meetings (once or twice a week, two hours each) to consider both the overall budget and future year projections as well as the main policy issues faced in each major

budget area. Simultaneously, subcommittees of Priorities Committee conduct preliminary studies of each major area (e. g., student aid, faculty manning, administration expenses, Library, etc.) before discussion of the subject within the full Committee. Where possible, present alternative plans for the next three years for each area. (The detailed meeting schedule and agenda for the Priorities Committee during this period was as follows:

Oct. 8: Faculty and Staff Housing Expenditures, and Rental Charges
Oct. 15: Tuition
Oct. 22: Overall Summary of Budget
Oct. 29: Faculty Manning
Nov. 5: Computer Center
Nov. 10: Dormitory and Food Services
Nov. 12: Library
Nov. 17: Planning, Plant, and Properties
Nov. 19: Undergraduate Student Aid
Nov. 24: Graduate Student Support and Rents
Nov. 25: Special Academic Programs
Nov. 27: Athletics
Dec. 1: Academic Administration
Dec. 3: General Administration
Dec. 8: Faculty and Staff Salary Pools
Dec. 10 & Dec. 15: Second Reviews of Subjects Requiring Further Consideration
Dec. 17: Overall Summary of Budget.)

2. Keep the appropriate committees of Princeton's Trustees informed of progress and take their views into account at an early stage. (There was one joint meeting of some of the members of the Priorities Committee and the budget subcommittee of the Finance Committee of the Board; at other times, the chairman of the Priorities Committee, the Treasurer, and the President kept in touch with the Trustees.)

3. Give academic departments tentative decisions regarding positions for which they were authorized to recruit new faculty for FY 72.

IV. December 17, 1970 - January 31, 1971

1. Draft Priorities Committee report; hold meetings of Committee to review final recommendations.

2. Discuss report (in draft form) with budget subcommittee of Trustees.

3. Present final report to President.

4. President endorses recommendations.

5. Present report to full Finance Committee of Trustees on January 25 (and to full Board shortly thereafter). Trustees approve general outline of FY 72 budget and also specific recommendations for tuition, room, and board increases; salary pools, student aid, and rents on University housing.

6. Provost holds various meetings with faculty, student, and staff groups to describe and discuss major budget decisions.

7. Priorities Committee begins intensive discussion of possible reductions in program base of the University by FY 74.

V. January 31 - May 7, 1971

1. Settle all remaining unresolved budget issues (mostly minor ones) and communicate final decisions to departments.
2. Inform committees responsible for determining salary increases for individuals (Committee on Appointments and Advancements for Faculty, and Senior Salary Committee for administrative staff) of sizes of pools available; these committees then make recommendations to the President concerning salary adjustments for all individuals above a certain level; other administrative officers make salary decisions in remaining cases.
3. Finance Committee of Board of Trustees reviews and approves entire budget in final form, on May 7.

VI. May 7 - June 30, 1971

1. Controller's Office prepares final working budget for FY 72 in line-item detail.

In looking back over this outline and time schedule, five aspects of it deserve further comment. First, by far the tightest part of the schedule occurred in period III (October 8 to December 17) when we were formulating recommendations for all of the major areas while at the same time preparing a whole series of trial budgets for the University as a whole. Second, we made no final decisions concerning recommendations for any one area (such as rents on faculty and staff housing) until all areas had been reviewed; the "second review" meetings of the Priorities Committee held in the middle of December were used to consider in what ways (if at all) the provisional recommendations reached earlier should be modified.[1] Third, our ability to make this tight schedule work depended heavily on effective data processing as well as on the cooperation of department heads and administrative officers. Fourth, while we have been careful to distinguish the roles of the Committee and the President in the above outline, in fact there was a very close working relationship, with the President attending most meetings of the Committee; also, the Provost, in his capacity as chairman of the Priorities Committee, was responsible for seeing that the President's views were considered fully by the Committee and that the President, in turn, was aware of the views of the Committee. Fifth, while final action on the budget as a whole was not taken by the full Finance Committee of the Board of Trustees until May 7, the main decisions were all made by the Board in mid-January -- this being necessary in order to announce tuition charges, make definite commitments to people being hired, and make salary determinations.

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[1] Another stratagem employed to help put each of the major budget issues into proper perspective was to bring to the Committee, at several points in the review process, updated overall budget summaries reflecting the impact of recommendations made up to that point.

The General Structure of the Budget and Definitions of Major Elements

During the process of budget preparation and review, estimates of income and expenditures are presented in a wide variety of formats. There is no one way of presenting these figures that is right for all purposes. In the following sections we shall present some of the ways of organizing data that have proved useful to us in analyzing particular programs and activities; and, in Section IV of this study, we shall discuss the general subject of program budgeting at some length. Our immediate purpose here is a much simpler one: to set forth the basic format used to summarize Princeton's budget and to define the principal categories.

The format used for this purpose is the traditional one. It consists of separate tables for income (with breakdowns by source) and expenditures (with breakdowns by broad purpose), and it can be tied directly to the official financial statements for the University prepared by the Controller's Office at the end of each fiscal year. The income and expense summaries used in preparing the FY 72 budget are shown in Tables 1 and 2 below, with the column for FY 72 recording the final estimates and recommendations arrived at by the Priorities Committee and approved by the President and Trustees. (These tables are reproduced, without change, from Appendix A of the Report of the Priorities Committee for 1971-72.)

Readers who are already familiar with the major elements of a university budget may wish to skip over the following definitions, which will be well known to them. The income and expenditure sides of the budget are discussed in turn. Common to both tables are the column headings, which cover the latest completed fiscal year (FY 70 in this case), the current year (budgeted figures), and the "budget year" (here FY 72).

Table 1

PRINCETON UNIVERSITY
1971-72 Operating Budget: Income
(in thousands of dollars)

	FY70 Actual (1)	FY71 Budget (2)	FY72 Projection (3)	Difference (3) - (2) (4)
1. Endowment	12,310	14,262	14,855	+593
2. Student Fees:				
a. Undergraduate Tuition	7,990	9,125	10,710	+1,585
b. Graduate Tuition	3,522	3,653	3,915	+262
c. Other	248	260	251	-9
Subtotal	11,759	13,038	14,876	+1,838
3. Gifts and Grants (non-Gov't):				
a. Sponsored Projects 1/	1,967	1,378	993	-385
b. Annual Giving	2,983	3,100	3,100	---
c. Other	3,737	3,724	3,624	-100
Subtotal	8,687	8,201	7,717	-484
4. U.S. Government Agencies:				
a. Sponsored Projects 1/	27,737	23,938	22,067	-1,871
b. Other	3,128	2,465	1,809	-656
Subtotal	30,864	26,403	23,876	-2,527
5. Auxiliary Activities:				
a. Athletics	647	599	626	+27
b. Dormitories and Food Services	4,777	5,667	6,231	+564
c. Faculty and Staff Housing	1,143	1,237	1,372	+135
d. Married Student Housing	373	398	434	+36
e. Commercial Properties	772	765	787	+22
Subtotal	7,712	8,666	9,450	+784
6. Service Departments	2,845	3,251	3,317	+66
7. Other	2,304	2,287	2,523	+236
GRAND TOTAL	76,481	76,109	76,614	+505

1/ Summary of Sponsored Projects:

a. Direct Costs	23,348	19,298	17,087	-2,211
b. Indirect Cost Reimbursements	6,356	6,018	5,973	-45
Total */	29,704	25,316	23,060	-2,256

*/ Sum of lines 3a and 4a.

Table 2

PRINCETON UNIVERSITY
1971-72 Operating Budget: Expenditures
(in thousands of dollars)

	FY70 Actual (1)	FY71 Budget (2)	FY72 Recommen-dations (3)	Difference (3) - (2) (4)
1. Academic Departments:				
a. Instructional Salaries:				
1. Faculty, acad. year	8,573	9,577	9,570	-7
2. Teaching ast. stipends	449	526	612	+86
3. Teaching ast. tuitions	169	406	499	+93
b. Other salaries, expenses, and benefits	16,584	15,920	15,030	-890
c. Graduate fellowships:				
1. University fellowships[1]	1,341	1,688	1,902	+214
2. Other fellowships	3,876	3,158	2,908	-250
Subtotal	30,993	31,275	30,521	-754
2. Special Academic Programs	13,493	11,608	9,708	-1,900
3. Undergraduate Scholarships and Prizes	3,027	3,299	3,622	+323
4. Central University Services:				
a. Library	3,218	3,659	3,659	---
b. Computer Center	2,196	2,284	2,099	-185
c. Security	564	818	732	-86
d. Other	648	623	593	-30
Subtotal	6,626	7,384	7,083	-301
5. Administration:				
a. Acad. Administration	2,938	3,171	3,085	-86
b. General Administration	4,282	5,119	4,940	-179
Subtotal	7,220	8,290	8,025	-265
6. Planning, Plant, and Properties	7,884	8,840	8,604	-236
7. Athletics	1,222	1,288	1,220	-68
8. Dormitories and Food Services	3,808	3,947	3,938	-9
9. Undistributed Personnel Benefits	-31	---	---	---
10. Transfers to Reserves	3,223	3,234	3,422	+188
11. Salary Increases (including benefits)	---	---	1,452	+1,452
12. Savings from unfilled positions and unspent operating budgets	---	-550	-100	+450
13. Allowance for contingencies	---	50	300	+250
GRAND TOTAL	77,466	78,665	77,795	-870
14. Estimated Income	76,481	76,109	76,614	
15. Surplus or (deficit)	(985)	(2,556)	(1,181)	

---

[1] Endowment and General Funds.

Definition of Income Elements

1. Endowment. This is the income earned through investment of Princeton's endowed funds -- mainly gifts and bequests received by the University on the condition that the principal be invested, and the income used for current purposes. Some endowed funds may be used for any University purpose ("unrestricted" endowment), but most of them carry restrictions of one sort or another, including some quite narrow ones. (These restrictions complicate the calculation of endowment income, as will be noted below.)

2. Student Fees:

a. Undergraduate Tuition.

b. Graduate Tuition.

The figures are the product of numbers of students paying tuition (at undergraduate and graduate levels) and the tuition rate per student, adjusted for such factors as expected attrition before the start of the second semester.

c. Other Student Fees. Includes application fees, graduation and transcript fees, various fines and the like.

3. Gifts and Grants (non-Government):

a. Sponsored Projects. Funds received from foundations, corporations, individuals, and other non-governmental sources, mainly for the conduct of specific research projects. Most of these contracts provide for payment of "indirect costs" -- utilities and supporting services of various kinds -- as well as the direct expenses of the projects.

b. Annual Giving. These are unrestricted funds contributed each year by Princeton's alumni, parents of students, and other friends.

c. Other Non-Government Gifts and Grants. This category includes funds received from foundations and the other sources mentioned above for support of our academic departments and programs, for undergraduate scholarships and graduate fellowships, for improvement of the Library's collections, and for other purposes.

4. U. S. Government Agencies:

a. Sponsored Projects. Funds received from Federal Government agencies for the support of research projects, including the payment of both direct and indirect costs. The largest beneficiaries of this support in the years covered by the table are the Princeton Particle Accelerator and the Plasma Physics Laboratory.

b. Other Income from U. S. Government Agencies. The largest components here are funds from the National Science Foundation for computer costs (ending after FY 71) and graduate student fellowships.

5. Auxiliary Activities:

a. Athletics. Income from this source includes gate receipts from athletic events, sales of yearly ticket books, and fees for use of athletic facilities.

b. Dormitory and Food Services. Included under this heading are room and board charges at graduate and undergraduate levels, and also income from operation of the Student Center, faculty and staff dining facilities, cafeterias, etc.

c. Faculty and Staff Housing.

d. Married Student Housing.

e. Commercial Properties.

These categories comprise rental income from three types of University-owned real properties.

6. Service Departments. This line includes income to the Computer Center, printing and duplicating departments, machine shop, and other central supporting activities. With the exception of the Computer Center, most of this income is from other University departments. There is thus some double-counting included in the budget totals shown in the tables, although the deficit is unaffected, since these amounts are also included with the expenditures of the various departments. All interdepartmental charges have to be eliminated from the income and expenditure sides of the budget before the totals can be compared with those in the official financial statement of the University.

7. Other Income. Mainly income from investment of current funds (including sums of money not in the investment pool because they will be spent soon, for construction, for example); also includes miscellaneous categories such as income from parking permits and fines.

Definition of Expenditure Elements

1. Academic Departments:

a. Instructional Salaries:

(1) Faculty, academic year. In order to isolate instructional salaries in this section, any portion of faculty salaries paid by sponsored research projects is omitted from this line; also all salaries paid to faculty in the summer are omitted since they are for research or administrative services. (Princeton has no summer school.)

(2) Teaching assistant stipends.

(3) Teaching assistant tuitions.

These two lines cover, respectively, the salaries of, and the tuition payments made on behalf of, graduate students who are serving as Assistants in Instruction.

b. Other Salaries, Expenses, and Benefits. Includes all expenses of academic departments not otherwise set forth: summer salaries of faculty, all sponsored project expenses, supporting staff and operating expenses, and personnel benefits.

c. Graduate Fellowships. Two lines are shown here, in order to distinguish between fellowships which are funded from Princeton's endowed and general funds, and those which are financed from outside sources.

2. Special Academic Programs. This group comprises a number of interdepartmental programs and research centers which do not have departmental status. It includes the Princeton Particle Accelerator and the Plasma Physics Laboratory, which have been financed almost entirely by the Federal Government, as well as the Industrial Relations Section, the Office of Population Research, etc., which are supported by a mixture of internal and external funds.

3. Undergraduate Scholarships and Prizes. Prizes is a very small component of this line; virtually all of these expenditures are for scholarships. (Loans are of course treated separately since they come from a capital account.)

4. Central University Services. The first three entries here are self-explanatory; the fourth consists mainly of the University Machine Shop.

5. Administration. A number of departments are included here. The Academic Administration group includes the offices of the Provost and the Deans, health and other student services of all kinds, research administration, and some related activities. General Administration incorporates the University's fund raising and public affairs departments, administrative services of various kinds, the Controller's Office, the Personnel Office, and administrative data processing.

6. Planning, Plant, and Properties.

7. Athletics.

8. Dormitory and Food Services.

These three departments require no special explanation.

9. Undistributed Personnel Benefits. Most of these benefits -- social security, retirement, etc. -- are included as a fixed percentage of applicable salaries (14% for FY 72) on other lines of the table. At the end of the year, when actual benefit costs are known, the small residual not already accounted for by the percentage formula is shown on this line.

10. Transfers to Reserves. Certain types of costs -- capital equipment purchases and major maintenance expenditures -- are charged directly to reserves created for these purposes, rather than to the operating budget depicted in the tables. Each year these reserves are replenished from the operating budget on a formula basis (making use of a multi-year moving average of expenditures), and it is these transfers to the reserve accounts which appear on this line of the expenditure table. (The line also includes annual mortgage payments on a small number of University buildings.) Treating equipment and major maintenance

expenses in this way evens out their impact on the operating budget, so that pronounced year-to-year changes in expenditures do not occur simply because of, for example, the fortuitous timing of one or two large renovation projects.

11. Salary Increases (Including Benefits). We have chosen to show salary increases recommended for the budget year separately for two reasons. First, if they were distributed among the other lines of the table, it would be much more difficult to discern real changes in program level between the current and budget years (unless, of course, there were a distinction made between changes due to pay raises and changes for other reasons). Second, and more importantly, we have shown a separate pay raise line because the magnitude of the salary increases themselves is an important policy issue which must be decided in the budget process. In trying to order priorities, we need to know the costs of various possible pay increases as well as other competing claims on resources.

12. Savings from Unfilled Positions and Unspent Operating Budgets. Implicit in the numbers shown on other lines of the table are the assumptions that all positions will be filled throughout the year and that all operating budgets will be entirely spent. Since these conditions are never fully met, however, we have included a lump-sum estimate of the savings which can be anticipated.

13. Allowance for Contingencies. We have preferred to make a central allowance for unanticipated needs rather than to establish separate "pockets" in the various departments.

At the bottom of the expenditure table, we repeat the figure for estimated income (carried over from the income table) and then calculate the projected surplus or deficit by subtraction.

Estimating Income

In any discussion of University income, one fundamental distinction must be borne in mind. There are some categories of income (tuition, room and board fees, and the like) which are subject to a measure of control in the budgeting process. Other categories -- and, in the case of Princeton, the dollar magnitude here is greater -- are dependent on a multitude of external conditions: the state of the financial markets, the mood of Congress, attitudes of alumni, and a host of other factors.

Two of the income components over which we have some control (Dormitory and Food Services, and rentals on married student housing) are discussed in some detail in subsequent sections. We will discuss more briefly here the decisions reached on the other "controllable" income categories. But first, let us examine the procedures used to estimate those categories of income not dependent on explicit pricing decisions by Princeton.

Estimating "Uncontrollable Income". -- Estimating uncontrollable income for the following year is one of the first major responsibilities of the Director of the Budget in each fall budget cycle (cf. item I. 5 in the outline of the budget process). Prior to September 15, the Director of the Budget, working closely with the Controller's Office and other administrative offices, prepares estimates of endowment income, gifts and grants, sponsored research income, and income from the investment of current funds and other miscellaneous sources.

The resulting set of estimates for all sources of income treated as "givens" is extremely important because it provides an initial impression of the seriousness of the budgetary problem for the coming year. As the discussion in the 1971-72 Report of the Priorities Committee indicates (see pp. 154-158, and especially the table on p. 155 which presents data for FY 69 through FY 72), we estimated that all of these sources, taken together, would yield $311, 000 less in FY 72 than in FY 71. This grim prognosis affected all of the deliberations of the Priorities Committee, and we were very anxious that it be as accurate as possible.

With the exception of endowment (see below), estimates for these categories of income were straightforward projections of past experience, modified by whatever intelligence we could gather about current and expected general trends in various sorts of support, and about specific developments affecting Princeton in particular. In assembling the estimates, the Controller's Office relied heavily on others for detailed information. For instance, the initial estimate of Annual Giving was developed by our fund raisers, and the estimate for sponsored research was made by the Office of Research and Project Administration, which keeps in close touch with foundations and government agencies as well as with project leaders on campus.

The calculation of endowment income is always the most complicated part of this entire estimating effort because we count as income only the portion of endowment earnings which is actually spent in a particular year. The total of endowment income is therefore affected by four distinct factors: (1) the rate of return being earned on the stocks, bonds, and other securities in which the endowed funds are invested; (2) the total amount of the endowment, with changes occurring whenever new endowment is received or funds functioning as endowment are spent; (3) the fact that not all current income may be spent in a particular year because of restrictions imposed by donors or for other reasons (e.g., an endowed chair being vacant); and (4) the fact that (as the converse of (3)) some funds earned in prior years and not spent at that time may now be spent in the particular year in question. As a practical matter, then, these complications mean that the initial estimate for endowment income has to be quite provisional; a final estimate cannot be made until the spending plans of the various departments are known. And, this interaction between income estimates and expenditure decisions has to be monitored closely because the amounts involved can be significant.

Estimates for uncontrollable income for two more years in the future were made as part of the preparation of the Provisional Plan. As in the case of estimating this income for the budget year, most of the projections were straightforward extrapolations based on past experience with modifications for current trends. The one exception was the projection of gifts and grants (excluding Annual Giving).

This is one of the most complex -- as well as important -- estimates. Because a number of important grants are phasing out over the next few years, no extrapolation of past experience could be used. A special study had to be made of the rate at which balances in various accounts were expected to be drawn down and of the likelihood that replacement funds would be found. Uncertainties abound in work of this kind, and in developing our provisional plan through FY 74 we made a number of alternative estimates in an effort to get some sense of boundary conditions (see pp. 171-173 and Appendix B of the 1971-72 Report of the Priorities Committee).

Making Decisions About "Controllable Income": Tuition. -- All of the elements of "controllable income" were considered by the Priorities Committee along with proposals regarding expenditures. The question of what to do about tuition was taken up at one of our earliest meetings (October 15), in part because the materials needed to consider this topic were already fairly well in hand and in part because of the obvious importance of any recommendation regarding tuition for the overall income of the University and thus for the expenditure limits that would have to be applied in considering other areas. We recognized explicitly, however, that whatever recommendation regarding tuition was arrived at in mid-October would be provisional and subject to review, along with everything else, at the end of the budget-making process.

The subcommittee which had studied tuition alternatives presented as much information as it could obtain about the plans of other universities, particularly Princeton's closest "competitors." The Committee had also had the benefit of the crude preliminary projections of the deficit over the next several years. It was also aware that the tuition fee does not cover nearly all of the total cost of a Princeton education. With these factors in mind, there was discussion of the advantages of a relatively high fee on the grounds that students from high-income families ought to pay a high proportion of the cost of their education. On the other hand, there were concerns expressed that Princeton might -- given a very large tuition increase -- be pricing itself out of the market for some students. (The various considerations weighed in arriving at a tuition policy are described at much greater length in the 1971-72 Report of the Priorities Committee. See pp. 190-193, Section II.)

Having considered these and many other factors, and after hearing the views of the student members, the Committee came to the unanimous conclusion that it should plan on recommending a tuition increase of $300 for FY 72 (from $2,500 to $2,800), and, for planning purposes, further increases of $200 in each of the next two years. Later on, after the issues in all of the other budget areas had been confronted, and more information was available concerning likely tuition rates in 1971-72 at other institutions, the tuition recommendations were reviewed. The initial proposal of a $300 increase for FY 72 was endorsed, and the provisional increase for each of the two years beyond FY 72 was revised upwards to $250. This latter decision was taken in the belief that it was a necessary part of the whole provisional plan for FY 73 and FY 74, which by this time had been discussed in detail.

Housing Rentals. -- The analyses presented to the Committee to aid it in arriving at a recommendation for faculty and staff housing rentals illustrate a simple but important principle of budgeting: there are many issues which cannot be sensibly considered at all unless the income and expenditure sides of the budget are brought together into a single analytical framework.

In the case of faculty and staff housing, we had to consider alternative levels of rental income in the light of the expenses -- direct and indirect -- incurred by the University in providing the housing. This was so because the operating deficit now being incurred was seen to raise a real question of equity: why should the University subsidize housing for some, but not all, of its faculty and staff? (There is insufficient housing to meet demand.) The Committee's recommendation was to move in the direction of eliminating the deficit eventually -- with substantial progress hoped for in the three years covered by the provisional plan. We did not think, however, that it was feasible to propose an across-the-board rent increase of more than 10% in FY 72, together with selective additional increases for some rental units which were conspicuously underpriced. (See pp. 200-201 of the 1971-72 Report of the Priorities Committee for more detail on housing.)

Other "Controllable Income". -- This heading encompasses a wide variety of charges. The major issues regarding Athletics appeared almost wholly on the expenditure side of the budget, although the Committee did recommend selective increases in some fees (e.g., for yearly ticket books), and the imposition of some new ones (e.g., for the use of the outdoor tennis courts). Most of the income to Service Departments (with the exception of the Computer Center) is from other University departments. While fees for duplicating services, use of the machine shops, and the like ought to reflect the costs of providing the services (as a means of "rationing" them and of discouraging excessive use), this area of the budget really presented no significant policy issues. And as mentioned above, room and board charges will be discussed at some length later.

Budgeting Expenditures: Summary Forms

In this section, we will describe the principal standard form ("Form 10") used to gather and summarize expenditure data in the FY 72 budget process. No attempt will be made here to detail the substantive decision-making process for expenditures. Rather, later sections will treat several major budget areas, and the 1971-72 Report of the Priorities Committee itself contains considerably more detail on all of the principal issues dealt with in the budget review.

Form 10 -- illustrated in Table 3 for a specific academic department (Economics), and in Table 4 for a specific administrative department (Planning, Plant, and Properties) -- served several purposes in the FY 72 budget process:

1. Initially, it was sent out to all departments with the figures for FY 72 left blank. In this form it served as a standardized presentation of a variety of budgetary data for the last completed year and for the current year, thus allowing chairmen of academic departments and of departments providing supporting services to see at a glance all of the actual funds expended and being expended directly by their departments, broken down into useful categories. (The treatment of indirect expenses, and their proration among direct activities, is discussed in Section IV.)

2. It served as the form on which department chairmen summarized their budget requests for the following year (FY 72) -- except that, in the case of academic departments, faculty manning was handled through a coordinated set of forms which in turn generated the entries for faculty on Form 10. (The faculty manning forms are shown in the next section of this report.)

3. It was used by the central administration, and by the Priorities Committee in some instances, to assist in reviewing departmental requests. In the main, however, this form was not important in the review of substantive issues because of its highly aggregated nature. As will be illustrated in later sections of this report, the review of substantive issues was based on more detailed submissions and analyses,

BDG348 701111
FORM10 REQUEST

SUMMARY OF OPERATING BUDGET

AS OF 10/05/70

DEPARTMENT 140 ECONOMICS

Table 3

PRINCETON UNIVERSITY

1971-1972 BUDGET
AMOUNTS IN THOUSANDS OF DOLLARS

11/10/70

DEPARTMENT 140 ECONOMICS

		----1969-70 ACTUAL----				----1970-71 BUDGET----				----1971-72 REQUEST----			
			RESTRICTED FUNDS				RESTRICTED FUNDS				RESTRICTED FUNDS		
	SALARIES & BENEFITS	GENERAL FUNDS A	UNIV RESTR B	SPONSORED PROJECTS C	TOTAL D	GENERAL FUNDS E	UNIV RESTR F	SPONSORED PROJECTS G	TOTAL H	GENERAL FUNDS J	UNIV RESTR K	SPONSORED PROJECTS L	TOTAL M
1	FACULTY-ACADEMIC YEAR	266.4	16.3	66.6	349.3	377.6	7.5	33.3	418.4	347.5	16.9	52.7	417.1
2	TEACHING ASSISTANTS												
	2A STIPENDS	5.1			5.1	10.4			10.4	21.4			21.4
	2B TUITION					5.6			5.6	16.8			16.8
3	FACULTY-SUMMER	4.7		39.9	44.6			49.9	49.9			68.1	68.1
4	PROF RESEARCH STAFF			36.4	36.4			20.7	20.7			22.2	22.2
5	PROF TECHNICAL STAFF			3.5	3.5			3.1	3.1				
6	A/R'S ACADEMIC YEAR												
	6A STIPENDS												
	6B TUITION												
7	A/R'S SUMMER												
8	SUPPORTING STAFF:												
	8A ADMINISTRATIVE STAFF	7.4	7.1		14.5	8.1	7.5		15.6	8.1	7.5		15.6
	8B OFFICE STAFF	33.5		4.2	37.7	40.9			40.9	41.5			41.5
	8C LAB & SHOP BI-WEEKLY											16.4	16.4
	8D MISC STAFF & SPECIAL PAY	1.2		1.7	2.9	.9		1.0	1.9	.9			.9
	8E TOTAL SUPPORTING STAFF (LINES 8A-8D)	42.1	7.1	5.9	55.1	49.9	7.5	1.0	58.4	50.5	7.5	16.4	74.4
9	STUDENT WAGES	.6		9.4	10.0	1.8		6.3	8.1	1.8		6.5	8.3
10	TOTAL-LINES 1-9	318.9	23.4	161.7	504.0	445.3	15.0	114.3	574.6	438.0	24.4	165.9	628.3
11	PURCHASES FROM OTHER DEPTS (EX FACULTY & GRAD STDTS)												
12	CHARGES TO OTHER DEPTS * (EX FACULTY & GRAD STDTS)		1.4		1.4		6.2	19.8	26.0		6.2		6.2
13	OTHER SALARIES SPONS PROJ	XXXXX	XXXXX	XXXXX	XXXXX								
14	TOTAL SALARIES (LINES 10,11,13)	318.9	23.4	161.7	504.0	445.3	15.0	114.3	574.6	438.0	24.4	165.9	628.3
15	PERSONNEL BENEFITS	38.6	3.3	21.3	63.2	49.6	2.1	15.1	66.8	47.8	3.4	22.3	73.5
16	TOTAL SALARIES & BENEFITS (LINES 14 & 15)	357.5	26.7	183.0	567.2	494.9	17.1	129.4	641.4	485.8	27.8	188.2	701.8
	OPERATING EXPENSES												
17	COMPUTER CHARGES	37.0		6.6	43.6	40.0		15.0	55.0	45.0		12.8	57.8
18	OTHER OPERATING EXPENSES	10.1	1.1	13.9	25.1	10.5	2.8	13.7	27.0	11.5	2.8	6.8	21.1
19	TOTAL OPERATING EXPENSES (LINES 17 & 18)	47.1	1.1	20.5	68.7	50.5	2.8	28.7	82.0	56.5	2.8	19.6	78.9
20	TOTAL SAL & OPR EXPENSES (LINES 16 & 19)	404.6	27.8	203.5	635.9	545.4	19.9	158.1	723.4	542.3	30.6	207.8	780.7

* NOT ADDED INTO TOTALS

BDG348 701209
FORM10 REQUEST

SUMMARY OF OPERATING BUDGET

AS OF 11/24/70

DEPARTMENT 900 PHYSICAL PLANT-MC

Table 4

PRINCETON UNIVERSITY

1971-1972 BUDGET

AMOUNTS IN THOUSANDS OF DOLLARS

12/02/70

DEPARTMENT 900 PHYSICAL PLANT-MC

	----1969-70 ACTUAL----				----1970-71 BUDGET----				----1971-72 REQUEST----			
		RESTRICTED FUNDS				RESTRICTED FUNDS				RESTRICTED FUNDS		
	GENERAL FUNDS A	UNIV RESTR B	SPONSORED PROJECTS C	TOTAL D	GENERAL FUNDS E	UNIV RESTR F	SPONSORED PROJECTS G	TOTAL H	GENERAL FUNDS J	UNIV RESTR K	SPONSORED PROJECTS L	TOTAL M
SALARIES & BENEFITS												
1 FACULTY - ACADEMIC YEAR		1.0		1.0		1.0		1.0		1.0		1.0
2 TEACHING ASSISTANTS												
2A STIPENDS												
2B TUITION												
3 FACULTY-SUMMER												
4 PROF RESEARCH STAFF												
5 PROF TECHNICAL STAFF												
6 A/R'S ACADEMIC YEAR												
6A STIPENDS												
6B TUITION												
7 A/R'S SUMMER												
8 SUPPORTING STAFF:												
8A ADMINISTRATIVE STAFF	67.6			67.6	105.0	7.2		112.2	84.5	7.2		91.7
8B OFFICE STAFF	13.4			13.4	17.8			17.8	8.9			8.9
8C LAB & SHOP BI-WEEKLY	1649.5			1649.5	1944.2	4.7		1948.9	1929.2	4.7		1933.9
8D MISC STAFF & SPECIAL PAY	44.7			44.7								
8E TOTAL SUPPORTING STAFF (LINES 8A-8D)	1775.2	—	—	1775.2	2067.0	11.9	—	2078.9	2022.6	11.9	—	2034.5
9 STUDENT WAGES												
10 TOTAL-LINES 1-9	1775.2	1.0	—	1776.2	2067.0	12.9	—	2079.9	2022.6	12.9	—	2035.5
11 PURCHASES FROM OTHER DEPTS (EX FACULTY & GRAD STDTS)												
12 CHARGES TO OTHER DEPTS* (EX FACULTY & GRAD STDTS)	29.2			29.2	5.8			5.8	5.8			5.8
13 OTHER SALARIES SPONS PROJ	XXXXXX	XXXXXX	XXXXXX	XXXXXX								
14 TOTAL SALARIES (LINES 10,11,13)	1775.2	1.0		1776.2	2067.0	12.9	—	2079.9	2022.6	12.9	—	2035.5
15 PERSONNEL BENEFITS	248.5	.1		248.6	289.4	1.8		291.2	283.2	1.8		285.0
16 TOTAL SALARIES & BENEFITS (LINES 14 & 15)	2023.7	1.1	—	2024.8	2356.4	14.7	—	2371.1	2305.8	14.7	—	2320.5
OPERATING EXPENSES												
17 COMPUTER CHARGES	1.1			1.1	2.0			2.0				
18 OTHER OPERATING EXPENSES	2730.7	9.1		2739.8	3156.5	21.4		3177.9	3182.9	20.5		3203.4
19 TOTAL OPERATING EXPENSES (LINES 17 & 18)	2731.8	9.1	—	2740.9	3158.5	21.4	—	3179.9	3182.9	20.5	—	3203.4
20 TOTAL SAL & OPR EXPENSES (LINES 16 & 19)	4755.5	10.2	—	4765.7	5514.9	36.1	—	5551.0	5488.7	35.2	—	5523.9

* NOT ADDED INTO TOTALS

often of a programmatic sort. Form 10 served the reviewing process mainly as a check on the consistency and completeness of dollar estimates.

4. After keypunching all the relevant information on the form for computer processing, it was used to combine the budget requests into the categories shown earlier on the overall expenditure summary table (Table 2), and to produce a Form 10 for the entire University. This "collecting" and "adding up" function was of critical importance -- without it we could not have generated a series of "trial" budgets as quickly and as frequently as we did.

As can be seen from the accompanying tables, the versions of Form 10 for academic and administrative departments are identical. In looking at Form 10, the first thing to notice is that the numerical data are divided into three main vertical sections, one for each of the three years covered by the table. Within each of these sections are four columns: one for expenditures from the University's unrestricted general funds (including some professorships charged to a combination of endowed and general funds); one for expenses charged to endowed funds, special gifts, and other University restricted funds; one for direct charges to sponsored projects; and one totaling the first three columns.

The line designations are mostly self-explanatory, although some special features of particular lines should be pointed out. The general scheme is as follows: the first fourteen lines deal with salaries of each classification of Princeton's employees, the next line shows the personnel benefits related to those salaries, and the last section of the table treats operating (non-salary) expenses. The reader will also note several lines representing totals and subtotals.

Line 1 (faculty - academic year) is derived from the faculty manning budget forms described in the next section. It may be of interest here to point out, however, that this line includes not just the regular faculty, but also portions of the salaries of some members of the research and administrative staff who devote part of their time to teaching.

Line 2 (teaching assistants). These are graduate student assistants in instruction.

Line 3 (faculty - summer). Since Princeton does not have a summer session, our faculty are paid mainly on a ten-month basis. However, some summer salaries are paid for work on research and other special projects. (Note that nearly all summer salaries of faculty are charged to sponsored projects in Table 3, the Form 10 for the Economics Department.)

Lines 6 and 7 (A/R's academic year and summer). These are graduate students who are being supported as assistants in research -- mainly on sponsored projects.

Line 8 (supporting staff) is subdivided into four categories. "Administrative staff" is self-explanatory. "Office staff" refers to the secretarial ranks. "Lab and shop bi-weekly" also includes janitors, groundsmen, food service workers, guards, and the like. "Miscellaneous staff and special pay" is mainly part-time and temporary help.

Line 9 (student wages) covers payments for specific jobs performed. It does not include any amounts for undergraduate scholarships or graduate fellowships.

Lines 11 and 12 (purchases from and charges to other departments -- except faculty and graduate students). Frequently, one department -- in carrying out its mission -- may make use of a substantial part of the time of a staff member who is "home-based" in another department. When this occurs, the benefiting department pays a portion of the staff member's salary (equivalent to the amount of time "purchased"). In this way, a more accurate picture is presented of the real costs of operating each department. In the example cited, the "purchasing" department would have an entry on line 11, and the selling department would have an offsetting entry on line 12.

Line 13 (other salaries, sponsored projects). This line owes its existence to the fact that there is usually a difference between the estimate of total salaries to be paid from sponsored projects in a given year, on the one hand, and the annual salaries of persons actually on the payroll and charged to those projects *at any given point in time*, on the other hand. Estimated total salaries could be equal to or more than the actual at any point, but never less. (If the actual exceeded the estimate, it would be time to amend the estimate!) Any difference between the two measures -- whether due to hirings planned for later in the year or whatever other cause -- would appear on line 13.

Line 15 (personnel benefits) is a formula calculation (14% of non-student salaries at the time the accompanying tables were prepared) intended to approximate the actual total cost, in any given year, of social security, retirement, and other benefits.

Lines 17 and 18 (computer charges and other operating expenses) together encompass all other expenditures made directly by each department. Computer costs are shown separately because they are intra-university charges; amounts on the Form 10 line 17 of each department also count as income to the Computer Center and the administrative data processing department.

The computer program which produces Form 10 permits aggregation of several (or all) departments to produce Form 10's for groupings of departments and for the University as a whole. As noted above, this critically important attribute of the system makes it quite simple to translate from the computer printout for an individual department to a summary for, say, all offices reporting to the General Manager of Planning, Plant, and Properties, to the summary expenditure format for the University as a whole (Table 2). Thus, there is a semi-aggregated Form 10 backing up each of the lines of that table (Special Academic Programs, General Administration, etc.), and a fully aggregated Form 10 corresponding to the total shown on Table 2 (except that contingencies, salary increases, and allowances for unfilled positions have to be added in). Form 10, then, serves as the primary instrument of organization for all of the expenditure data considered in the budget-making process.

Budgeting in Specific Areas: Faculty Manning[1]

Budgeting for faculty positions has proved to be by far the most complex aspect of the entire process of budgeting and planning. The complexity is in part inherent in the nature of faculty appointments, methods of compensation, and work schedules, as well as in the nature of departmental organization. Faculty members are appointed for varying periods of time, tenure decisions are related to both rank and period of service, some salaries are charged in part to sponsored research accounts or to restricted endowments as well as to general funds, leaves of absence must be planned for and may or may not entail salary payments from the institution, faculty members are grouped into a large number of departments with chairmen who may or may not be good administrators, they perform a wide variety of teaching and administrative duties, at both undergraduate and graduate levels, some of which may take place out of their "home" departments as well as in them.

The above factors alone would be sufficient to require a systematic and, inevitably, complex method of budgeting and accounting for faculty time. In addition, however, particular care must be given to faculty manning because of the central role played by faculty in a university. This is true from a purely financial standpoint. The faculty salary bill tends to be the largest single item of expense, and decisions to increase or reduce the size of the faculty have pronounced effects on almost every other item of expense.

Even more important is the fact that bad decisions regarding faculty manning probably can do more lasting harm to the quality of the university than bad decisions of any other kind. The composition of the faculty is of primary importance in determining the educational quality of the university as a whole. Moreover, faculty members in one discipline (or even in a particular field within a discipline) are not substitutable for other faculty members. Accordingly, it is not sufficient simply to budget for approximately the "right" total number and quality of faculty; the distribution by department, and by function and by specialty within departments, must also be consistent with educational and research goals. Faculty morale matters enormously, and departments are often so delicately balanced that the elimination of even one position can make a great difference to the general tone of the enterprise as well as to the teaching and research effort. Consequently, faculty budgeting must be done at a very fine level of detail and on the basis of a great deal of qualitative as well as quantitative information.

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[1] Parts of this section were drafted by James Litvack, Assistant Dean of the Faculty.

All of these considerations argued strongly for paying special attention to faculty manning at the outset of our efforts to improve the budgeting process at Princeton. Accordingly, we devoted most of the first six months of this demonstration project to devising a series of forms for analyzing faculty positions. Samples of each of these forms, along with brief descriptions, are presented immediately below. Next, we discuss the way the forms were used in developing the budget for FY 72, first in general terms and then in terms of the particular department to which the sample forms pertain (Economics).

It should be noted that the (comparative) order and ease of analysis achieved through the use of these forms is the result of a fairly involved data collection and programming procedure. Information on approximately 700 faculty members must be gathered from thirty-five department chairmen, as well as from central sources, in a manner that makes it consistent with information from the payroll computer program. Any college or university instituting a system of this general kind must anticipate some time-consuming and frustrating experiences, as trial and error show the best way to ask for and assemble information in the particular setting.

The Basic Faculty Manning Forms. -- Listed below are the principal forms (one set for each academic department, with the exception of Form 8, which is a general summary form):

Form 1:	Faculty Budget, By Individual, Actual FY 70 (the year just completed).
Form 2:	Faculty Budget, By Individual, Budgeted FY 71 (the current year).
Form 3A:	Requested Faculty Budget, By Individual, Projected FY 72 (the budget year).
Form 5A:	Faculty Salary Summary, Totals by Rank, Actual FY 70.
Form 5B:	Faculty Salary Summary, Totals by Rank, Budgeted FY 71.
Form 5D:	Faculty Salary Summary, Totals by Rank, Projected FY 72.
Form 6:	Teaching Statistics, FY's 66 through 70 (Actual), FY 71 (Estimated), FY 72 (Projected).
Form 7:	Departmental Statistics on Teaching Costs and Manpower, FY's 67 through 70 (Actual), FY 71 (Estimated), FY 72 (Projected).
Form 8:	Departmental Faculty Staffing and Salary Analysis, FY 71 (Budgeted) and FY 72 (Requested).

The gaps in the numbering system are of no consequence; they represent extra forms tried out in earlier years and discarded as not worth the effort.

Forms 1, 2, and 3A show faculty budget information for each individual, by rank, for each department. Forms 5A, 5B, and 5D summarize by rank, for each department, division, and the University as a whole, a variety of faculty salary totals from the data for individuals found on Forms 1, 2, and 3A. Form 6 shows the demands of the department's instructional program in terms of numbers of courses to be taught at various levels, numbers of students involved in these courses, numbers of faculty course contact hours to be spent on these courses, and the numbers of departmental students to be supervised. Form 6 presents these numbers for each department for the five preceding years, along with estimates for the current year and projections for the budget year. Form 7 relates the demands made on each department's faculty in terms of enrollments, supervision, and administration to dollars and full-time equivalents (FTE's) on the teaching budget. And finally Form 8 is a general summary of continuing and new faculty salaries by department.

Forms 3A, 5A, 5B, 5D, 6, 7, and 8 for the Economics Department (our illustrative case) are reproduced on the following pages as Tables 5 through 11. Forms 1 and 2 are identical to Form 3A in format, referring to the past year and the current year respectively, and are not reproduced. (Since individual salaries are confidential at Princeton, names and other identifying characteristics -- fields of specialization and retirement dates -- have been blanked out. As a further aid to confidentiality, salaries and charges have been juggled among individuals, but all other data -- including the totals for each rank, which need to be consistent with the data in Form 5D -- are shown as they appeared on the actual forms.)

A detailed description of these forms is found in Appendix B.

The Faculty Budgeting Process in General. -- We are now ready for a few comments concerning the general nature of the faculty budgeting process.

The faculty manning part of the budget process requires that three decisions be made for each department. First, the number of new appointments must be decided. This involves acting on requests for new positions and deciding whether positions about to be vacated may be filled by replacements or are to be left vacant. Second, the distribution of positions among the ranks must be considered. In particular, this involves decisions concerning the availability of tenure positions for individuals whom departments wish to promote and decisions concerning the level at which vacant positions may be filled. Finally, leaves of

Table 5

PRINCETON UNIVERSITY

1971-72 **BUDGET**
FACULTY STAFFING

Form 3A
REQUESTED FACULTY BUDGET
DEPT./PROGRAM
RANK 140 ECONOMICS

BDG37500 11/17/70 PAGE 19
FILE AS OF 10/05/70

140 ECONOMICS

LINE	PAYROLL NO.	NAME	PD. OF APPT.	PCT. OF DUTY TIME	PCT. OF FTE	TOTAL AY. SALARY	DISTRIBUTION								REMARKS	SPECIALIZATION
							GENERAL FUNDS	RESTRICTED FUNDS	SPONSORED PROJECTS	PURCH. BY OTHER DEPTS. AMOUNT	DEPT.-ACCOUNT	LEAVE OF ABSENCE PAID BY PRINCETON	WITHOUT PAY		
	A	B	C	D	E	F	G	H	J	K	L	M	N		
-		002 PROFESSOR													
						CONTINUING APPOINTMENTS & REAPPOINTMENTS									
1	[redacted]		AY		100	28500	19950		8550					CONTIN 00	
2	[redacted]		AY		100	26000				26000	400 2000			CONTIN 00	
3	[redacted]		AY		100	19500	13000		6500					CONTIN 00	
4	[redacted]		AY		100	22500		16875		5625	285 1000			CONTIN 00	
5	[redacted]		AY		100	16000	16000							CONTIN 00	
6	[redacted]		AY		100	25000						25000		CONTIN 00	
7	[redacted]		AY		100	23000	11500		7667	3833	337 2000			CONTIN 00	
8	[redacted]		AY		100	27000	2000					12500	12500	CONTIN 00	
9	[redacted]		AY		100	28000	14000			14000	360 2000			CONTIN 00	
10	[redacted]		AY		100	30000	25000		5000					CONTIN 00	
		SUB-TOTALS			1000	245500	101450	16875	27717	40458		37500	12500		
						PROMOTIONS AND NEW APPOINTMENTS									
11	N14006		AY		100	32000				32000	365 2000			NEW 09	
		SUB-TOTALS			100	32000				32000					
		RANK TOTALS			1100	277500	101450	16875	27717	81458		37500	12500		
		003 ASSOC PROFESSOR													
						PROMOTIONS AND NEW APPOINTMENTS									
12	[redacted]		AY		100	13500	7159			4500 1841	110 4008 285 1000			PROMOT 03	
13	[redacted]		AY		100	13500	9000		4500					PROMOT 03	
		SUB-TOTALS			200	27000	16159		4500	6341					
		RANK TOTALS			200	27000	16159		4500	6341					

Note: Since individual salaries are confidential at Princeton, names and other identifying characteristics (fields of specialization and retirement dates) have been blanked out. As a further aid to confidentiality, salaries and charges have been juggled among individuals.

Table 5 (continued)

Form 3A
REQUESTED FACULTY BUDGET
DEPT./PROGRAM
RANK 140 ECONOMICS

PRINCETON UNIVERSITY

1971-72 BUDGET
FACULTY STAFFING

BDG37500 11/17/70 PAGE 20
FILE AS OF 10/05/70

140 ECONOMICS

LINE	PAYROLL NO.	NAME	PD. OF APPT.	PCT. OF DUTY TIME	PCT. OF FTE	TOTAL AY. SALARY	GENERAL FUNDS	RESTRICTED FUNDS	SPONSORED PROJECTS	PURCH. BY OTHER DEPTS. AMOUNT	PURCH. BY OTHER DEPTS. DEPT.-ACCOUNT	LEAVE OF ABSENCE PAID BY PRINCETON	LEAVE OF ABSENCE WITHOUT PAY	REMARKS	SPECIALIZATION
	A	B	C	D	E	F	G	H	J	K	L	M	N		
		004 ASST PROFESSOR													
				CONTINUING APPOINTMENTS & REAPPOINTMENTS											
14	[redacted]		AY	100		13500	4909			1841	285 1000	6750		CONTIN 00	
15	[redacted]		AY	100		12250	10209		2041					CONTIN 00	
16	[redacted]		AY	100		12250	3898			2227	285 1000	6125		CONTIN 00	
17	[redacted]		AY	100		12250	7981		2042	2227	285 1000			CONTIN 00	
18	[redacted]		AY	100		12250				6125	110 4008		6125	CONTIN 00	
19	[redacted]		AY	100		12750	4250		2125			6375		CONTIN 00	
20	[redacted]		AY	100		12000	5818			4000 2182	365 2000 285 1000			CONTIN 00	
21	[redacted]		AY	100		11500	11500							CONTIN 00	
22	[redacted]		AY	100		11500	9932			1568	285 1000			CONTIN 00	
23	[redacted]		AY	100		13000	10816			2184	285 1000			REAPPT 01	
24	[redacted]		AY	100		12250	10023			2227	285 1000			REAPPT 01	
		SUB-TOTALS		1100		135500	79336		6208	24581		19250	6125		
				PROMOTIONS AND NEW APPOINTMENTS											
25	N14001		AY	100		12750	8114			4636	285 1000			NEW 09	
26	N14005		AY	100		13750	9167		4583					NEW 09	
		SUB-TOTALS		200		26500	17281		4583	4636					
		RANK TOTALS		1300		162000	96617		10791	29217		19250	6125		
		005 LECTURER													
				PROMOTIONS AND NEW APPOINTMENTS											
27	N14002		AY	67	67	5667	5667							NEW 09	

Table 5 (continued)

Form 3A
REQUESTED FACULTY BUDGET
DEPT./PROGRAM
RANK 140 ECONOMICS

PRINCETON UNIVERSITY
1971-72 BUDGET
FACULTY STAFFING

BDG37500 11/17/70 PAGE 21
FILE AS OF 10/05/70

140 ECONOMICS

								DISTRIBUTION						
LINE	PAYROLL NO. A	NAME B	PD. OF APPT. C	PCT. OF DUTY TIME D	PCT. OF FTE E	TOTAL AY. SALARY F	GENERAL FUNDS G	RESTRICTED FUNDS H	SPONSORED PROJECTS J	PURCH. BY OTHER DEPTS. AMOUNT K	PURCH. BY OTHER DEPTS. DEPT.-ACCOUNT L	LEAVE OF ABSENCE PAID BY PRINCETON M	LEAVE OF ABSENCE WITHOUT PAY N	
		005 LECTURER												
				PROMOTIONS AND NEW APPOINTMENTS										
28	N14003	* * INSTRUCTOR II	AY	67	67	5667	5667							NEW 09
29	N14004	* * VIS PROF III	S	33	17	4250	4250							NEW 09
		SUB-TOTALS			151	15584	15584							
		RANK TOTALS			151	15584	15584							
		006 PURCH FROM OTH DEPTS												
30	[redacted]				45	7088	7088							FROM DEPT 285
31	[redacted]				55	9075	9075							FROM DEPT 285
32	[redacted]				22	3722	3722							FROM DEPT 285
33	[redacted]				25	3625	3625							FROM DEPT 285
34	[redacted]				25	4000	4000							FROM DEPT 400
35	[redacted]				33	9666			9666					FROM DEPT 285
36	[redacted]				45	12888	12888							FROM DEPT 285
37	[redacted]				33	4444	4444							FROM DEPT 605
38	[redacted]				36	4545	4545							FROM DEPT 285
39	N28501				25	6000	6000							FROM DEPT 285
40	N28504	* * III			25	3000	3000							FROM DEPT 285
41	[redacted]				20	2600	2600							FROM DEPT 285
		RANK TOTALS			389	70653	60987		9666					
		DEPT TOTALS			3140	552737	290797	16875	52674	117016		56750	18625	

Form No. 5 A ACTUAL 1969-70

DEPT./PROGRAM 140 ECONOMICS

Table 6
PRINCETON UNIVERSITY
1971-72 BUDGET
FACULTY SALARY SUMMARY

BDG41000 11/11/70 PAGE 18

	DISTRIBUTION						TOTAL SALARIES			DEPT. TEACHING BUDGET			DEPT. TEACHING WITHOUT LEAVES
	GENERAL FUNDS	RESTRICTED FUNDS	SPONSORED PROJECTS	PURCH. BY OTHER DEPTS.	LEAVE OF ABSENCE PAID BY PRINCETON	LEAVE OF ABSENCE WITHOUT PAY	TOTAL OF A - F	NO. OF FTE'S	AVERAGE $/FTE	A + B + E	NO. OF FTE'S	AVERAGE $/FTE	NO. OF FTE'S
	A	B	C	D	E	F	G	H	J	K	L	M	N
1 PROFESSOR	81580	16338	53841	67537	18554	33150	271000	12.00	22583	116472	5.21	22355	4.46
2 ASSOC PROFESSOR													
3 ASST PROFESSOR	92973		12732	36420	18625	11500	172250	14.50	11879	111598	9.37	11910	7.79
4 LECTURER	25254			3663			28917	2.83	10218	25254	2.50	10101	2.50
5 PURCH FROM OTH DEPTS	29457						29457	1.84	16009	29457	1.84	16009	1.84
6 GRAD TEACHING ASST	5100						5100	1.17	4358	5100	1.17	4358	1.17
TOTALS													
7 ALL (1 THRU 6)	234364	16338	66573	107620	37179	44650	506724	32.34	15668	287881	20.09	14329	17.76
8 PCT OF TOTAL SAL	46	3	13	21	7	9	100						
9 DEPT'S FAC (1 THRU 4)	199807	16338	66573	107620	37179	44650	472167	29.33	16098	253324	17.08	14831	14.75
10 ALL EXCEPT 6 (1 THRU 5)	229264	16338	66573	107620	37179	44650	501624	31.17	16093	282781	18.92	14946	16.59
11 ALL EXCEPT 5 (1 THRU 4 + 6)	204907	16338	66573	107620	37179	44650	477267	30.50	15648	258424	18.25	14160	15.92

Form No. 5 B BUDGETED 1970-71

DEPT. PROGRAM 140 ECONOMICS

Table 7
PRINCETON UNIVERSITY
1971-72 **BUDGET**
FACULTY SALARY SUMMARY

BDG41000 11/11/70 PAGE 59

	DISTRIBUTION						TOTAL SALARIES			DEPT. TEACHING BUDGET			DEPT. TEACHING WITHOUT LEAVES
	GENERAL FUNDS	RESTRICTED FUNDS	SPONSORED PROJECTS	PURCH. BY OTHER DEPTS.	LEAVE OF PAID BY PRINCETON	ABSENCE WITHOUT PAY	TOTAL OF A - F	NO. OF FTE'S	AVERAGE $/FTE	A + B + E	NO. OF FTE'S	AVERAGE $/FTE	NO. OF FTE'S
	A	B	C	D	E	F	G	H	J	K	L	M	N
1 PROFESSOR	130168	7500	13332	81750	46750	24000	303500	12.00	25291	184418	7.35	25090	5.35
2 ASSOC PROFESSOR													
3 ASST PROFESSOR	117357		10326	34442	26125		188250	15.00	12550	143482	11.45	12531	9.45
4 LECTURER	5667						5667	.67	8458	5667	.67	8458	.67
5 PURCH FROM OTH DEPTS	51568		9666				61234	3.36	18224	51568	3.03	17019	3.03
6 GRAD TEACHING ASST	16000						16000	1.40	11428	16000	1.40	11428	1.40
TOTALS													
7 ALL (1 THRU 6)	320760	7500	33324	116192	72875	24000	574651	32.43	17719	401135	23.90	16783	19.90
8 PCT OF TOTAL SAL	56	1	6	20	13	4	100						
9 DEPT'S FAC (1 THRU 4)	253192	7500	23658	116192	72875	24000	497417	27.67	17976	333567	19.47	17132	15.47
10 ALL EXCEPT 6 (1 THRU 5)	304760	7500	33324	116192	72875	24000	558651	31.03	18003	385135	22.50	17117	18.50
11 ALL EXCEPT 5 (1 THRU 4+6)	269192	7500	23658	116192	72875	24000	513417	29.07	17661	349567	20.87	16749	16.87

Form No. 5 D PROJECTED 1971-72

DEPT./PROGRAM 140 ECONOMICS

Table 8
PRINCETON UNIVERSITY
1971-72 BUDGET
FACULTY SALARY SUMMARY

BDG41000 11/11/70 PAGE 100

	DISTRIBUTION						TOTAL SALARIES			DEPT. TEACHING BUDGET			DEPT. TEACHING WITHOUT LEAVES
	GENERAL FUNDS	RESTRICTED FUNDS	SPONSORED PROJECTS	PURCH. BY OTHER DEPTS.	LEAVE OF ABSENCE PAID BY PRINCETON	LEAVE OF ABSENCE WITHOUT PAY	TOTAL OF A - F	NO. OF FTE'S	AVERAGE $/FTE	A + B + E	NO. OF FTE'S	AVERAGE $/FTE	NO. OF FTE'S
	A	B	C	D	E	F	G	H	J	K	L	M	N
1 PROFESSOR	101450	16875	27717	81458	37500	12500	277500	11.00	25227	155825	6.48	24047	5.02
2 ASSOC PROFESSOR	16159		4500	6341			27000	2.00	13500	16159	1.20	13465	1.20
3 ASST PROFESSOR	96617		10791	29217	19250	6125	162000	13.00	12461	115867	9.29	12472	7.79
4 LECTURER	15584						15584	1.51	10320	15584	1.51	10320	1.51
5 PURCH FROM OTH DEPTS	60987		9666				70653	3.89	18162	60987	3.56	17131	3.56
6 GRAD TEACHING ASST	38160						38160	3.00	12720	38160	3.00	12720	3.00
TOTALS													
7 ALL (1 THRU 6)	328957	16875	52674	117016	56750	18625	590897	34.40	17177	402582	25.04	16077	22.08
3 PCT OF TOTAL SAL	56	3	9	20	10	3	100						
9 DEPT'S FAC (1 THRU 4)	229810	16875	43008	117016	56750	18625	482084	27.51	17523	303435	18.48	16419	15.52
10 ALL EXCEPT 6 (1 THRU 5)	290797	16875	52674	117016	56750	18625	552737	31.40	17603	364422	22.04	16534	19.08
11 ALL EXCEPT 5 (1 THRU 4 + 6)	267970	16875	43008	117016	56750	18625	520244	30.51	17051	341595	21.48	15902	18.52

FORM 6

Table 9

PRINCETON UNIVERSITY
1971-72 BUDGET

TEACHING STATISTICS 1965-66 TO THE PRESENT

DATE..SEPT.15,1970

DEPARTMENT/PROGRAM ECONOMICS 140

	1965-66	1966-67	1967-68	1968-69	1969-70	ESTIMATED 1970-71	ESTIMATED 1971-72
GRADUATE INSTRUCTION							
1. NUMBER OF COURSES OFFERED	20	25	26	30	32	30	30
2. ENROLLMENT IN COURSES	241	296	313	274	371	350	340
3. FACULTY COURSE CONTACT HOURS, BY DEPT.FACULTY	66	80	86	83	78	75	75
4. FACULTY COURSE CONTACT HOURS, BY OTHER DEPARTMENTS	3	3	9	13	5	5	5
5. TOTAL FACULTY CC HOURS, GRADUATE (3 + 4)	69	83	95	96	83	80	80
6. FACULTY CC HOURS CONTRIBUTED TO OTHER DEPARTMENTS	31	32	29	14	30	30	30
7. 1ST AND 2ND YEAR STUDENTS	29	35	37	30	30	33	30
8. OTHER REGISTERED STUDENTS	19	14	20	27	24	24	23
9. TOTAL REGISTERED STUDENTS (7 + 8)	48	49	57	57	54	57	53
10. PH. D. DEGREES GRANTED	9	15	7	6	10	10	10
11. MPA, MSE, MFA-ARCH DEGREES GRANTED							
UNDERGRADUATE INSTRUCTION							
12. NUMBER OF COURSES BELOW 300	6	7	6	6	5	4	4
13. NUMBER OF COURSES 300 OR ABOVE	15	15	16	17	16	19	19
14. TOTAL NUMBER OF COURSES (12 + 13)	21	22	22	23	21	23	23
15. ENROLLMENTS IN COURSES BELOW 300	1113	1064	883	1012	909	793	806
16. ENROLLMENTS IN COURSES 300 OR ABOVE	752	777	930	876	785	952	1020
17. TOTAL ENROLLMENT (15 + 16)	1865	1841	1813	1888	1694	1745	1826
18. FACULTY COURSE CONTACT HOURS,BY DEPT.FACULTY	206	227	147	191	137	143	143
19. FACULTY COURSE CONTACT HOURS,BY OTHER DEPARTMENTS	3	23	27	14	25	25	25
20. TOTAL FACULTY CC HOURS,UNDERGRADUATE (18 + 19)	209	250	174	205	162	168	168
21. FACULTY CC HOURS CONTRIBUTED TO OTHER DEPARTMENTS	6	12	15	3	3	3	3
22. NUMBER OF SOPHOMORE CONCENTRATORS	4	1	1				
23. NUMBER OF JUNIOR MAJORS	44	61	57	53	46	70	45
24. NUMBER OF SENIOR MAJORS	39	41	58	57	50	44	71
25. TOTAL,DEPARTMENTAL STUDENTS (22 + 23 + 24)	87	103	116	110	96	114	116
TOTALS							
26. FACULTY CC HOURS BY DEPARTMENT FACULTY (3+6+18+21)	309	351	277	291	248	251	251
27. FACULTY CC HOURS ON DEPT.PROGRAM (5 + 20)	278	333	269	301	245	248	248

FORM 7 - 140

Table 10

PRINCETON UNIVERSITY 1971 - 1972 BUDGET

DATE - OCT 1, 1970

DEPARTMENTAL STATISTICS (1966-67 TO PRESENT)

DEPARTMENT/
140 ECONOMICS

	1966-67	1967-68	1968-69	1969-70	1970-71	1971-72
A. NUMBERS OF FTE STUDENTS						
1 NUMBER FTE UNDERGRAD STUDENTS	230.6	230.4	237.5	212.5	222.3	231.9
2 NUMBER FTE GRAD STUDENTS	63.3	72.2	72.7	85.8	82.3	79.7
3 NUMBER FTE STUDENTS, TOTAL (1 + 2)	294.0	302.6	310.2	298.3	304.6	311.6
4 0/0 OF DEMAND FROM UNDERGRAD PROGRAM (1/3 X 100)	78.5	76.2	76.6	71.2	73.0	74.4
B. STUDENT SUPERVISION						
5 GRAD STUDENT SUPERVISION HOURS	14.	20.	27.	24.	24.	23.
6 UNDERGRAD STUDENT SUPERVISION HOURS	44.	51.	48.	42.	48.	52.
7 TOTAL SUPERVISION HOURS (5 + 6)	58.	71.	75.	66.	72.	75.
8 GRAD SUPERVISION HOURS PER FTE GRAD STUDENT (5/2)	0.22	0.28	0.37	0.28	0.29	0.29
9 UNDERGRAD SUPERVISION HOURS PER FTE UNDERGRAD STUDENT (6/1)	0.19	0.22	0.20	0.20	0.22	0.23
C. DEPARTMENTAL ADMINISTRATION						
10 GRAD ADMIN HOURS	7.	8.	8.	7.	8.	7.
11 UNDERGRAD ADMIN HOURS	12.	13.	12.	11.	13.	13.
12 CHAIRMANSHIP HOURS	19.	18.	18.	16.	17.	17.
13 TOTAL ADMIN HOURS (10 + 11 + 12)	38.	38.	38.	35.	37.	37.
D. PROGRAM CALCULATIONS						
14 TEACHING HOURS, GRAD PROGRAM	108.	128.	136.	119.	116.	115.
15 TEACHING HOURS, UNDERGRAD PROGRAM	318.	247.	277.	225.	239.	243.
16 TEACHING HOURS, DEPT PROGRAMS (14 + 15)	426.	375.	413.	344.	355.	358.
17 0/0 DEPT PROGRAMS IN UNDERGRAD PROGRAMS (15/16 X 100)	74.6	65.9	67.0	65.4	67.2	67.9
E. TEACHING HOUR CALCULATIONS						
18 GRAD HOURS PER FTE GRAD STUDENT (14/2)	1.71	1.77	1.87	1.39	1.41	1.44
19 UNDERGRAD HOURS PER FTE UNDERGRAD STUDENT (15/1)	1.38	1.07	1.17	1.06	1.07	1.05
20 'CLASS SIZE' COST FACTOR (18/19)	1.24	1.65	1.61	1.31	1.32	1.38
21 TEACHING HOURS PER FTE FACULTY ON TEACHING BUDGET, OWN PROGRAM				17.1	13.9	14.3
F. TEACHING BUDGET CALCULATIONS						
22 $'S PER TEACHING HOUR, DEPT PROGRAM				836.	1165.	1124.
23 $'S PER FTE TOTAL STUDENTS, DEPT PROGRAM PER 'CLASS SIZE' FACTOR				961.	1354.	1286.
24 $'S PER FTE TOTAL STUDENTS, DEPT PROGRAM PER DIVISIONAL STUDENT COST FACTOR				707.	1012.	975.
25 $'S PER FTE TOTAL STUDENTS, DEPT PROGRAM PER UNIVERSITY-WIDE STUDENT COST FACTOR				788.	1123.	1077.

SUMMARY

DEPARTMENT -- DIVISION -- UNIVERSITY-WIDE COMPARISON

	1969-1970			1970-1971			1971-1972		
	DEPT	DIVN	UNIV	DEPT	DIVN	UNIV	DEPT	DIVN	UNIV
22 $'S PER TEACHING HOUR, DEPT PROGRAM	836.	896.	876.	1165.	1048.	1018.	1124.	1133.	1088.
23 $'S PER FTE TOTAL STUDENTS, DEPT PROGRAM PER CLASS SIZE FACTOR	961.	1211.	1824.	1354.	1373.	2055.	1286.	1436.	2139.
24 $'S PER FTE TOTAL STU'S, DEPT PROG PER DVNL STUDENT COST FACTOR	707.	892.	1485.	1012.	1008.	1689.	975.	1074.	1783.
25 $'S PER FTE TOTAL STU'S, DEPT PROG PER UNIV STUDENT COST FACTOR	788.	994.	1485.	1123.	1123.	1689.	1077.	1190.	1783.

FORM 8
ECONOMICS

Table 11

PRINCETON UNIVERSITY

RUN DATE 11/11/70
FILE AS OF 10/05/70

1971-72 BUDGET

DEPARTMENTAL FACULTY STAFFING & SALARY ANALYSIS

	TOTAL SALARY	GENERAL FUNDS	RESTRICTED FUNDS		PURCH BY OTH DEPTS	LEAVE WITH PAY		LEAVE W/O PAY		TOTAL # FTE	TEACHING BUDGET		EFF TEACH STAFF	TOT # FAC
	A	B	UNIV C	SPON PR D	E	$ F	# FTE G	$ H	# FTE J	K	$ L	# FTE M	N	O
140 ECONOMICS														
F71 CONT IN F72	482234	248679	7500	33324	97556	72875	4.0	24000	1.0	27.36	327354	19.69	15.69	24
F72 CONT FROM F71	469653	248932	16875	48091	80180	56750	3.0	18625	1.0	26.39	322557	18.72	15.76	23
F71 TERMINATIONS	76417	57781	0	0	18636	0	0	0	0	3.67	57781	2.81	2.81	4
F 72 NEW APPTS	83084	41865	0	4583	36836	0	0	0	0	5.01	41865	3.32	3.32	6
TOTALS F70	501624	229264	16338	66573	107620	37179	2.35	44650	2.38	31.17	282781	18.92	16.59	30
F71	558651	304760	7500	33324	116192	72875	4.0	24000	1.0	31.03	385135	22.50	18.50	28
F72	552737	290797	16875	52674	117016	56750	3.0	18625	1.0	31.40	364422	22.04	19.08	29

absence must be considered at least at a rough level of approximation. These include not only leaves paid by Princeton but leaves without pay.

Forms 1, 2, and 3A are designed to show all of the above. In mid-September each chairman receives Forms 1 and 2 for the past and current years and a version of Form 3A for the budget year which simply repeats the basic data for continuing faculty. At the same time the chairmen receive Forms 5A and 5B, giving summary data for the past and current years; Form 6, giving information on trends in enrollment; and a statement from the Provost concerning the overall financial situation and budget guidelines for the coming year. The chairmen are asked to complete Form 3A, correcting any parts of the salary file that are incorrect and indicating their proposals for the coming fiscal year. As noted above, they are also asked to indicate any major respects in which they believe the enrollment projections on Form 6 to be in error. Finally, chairmen are asked to return a completed version of Form 10, showing proposals for all purposes other than academic year faculty salaries, and to submit a memorandum providing the rationale for the entire set of proposals.[1/]

By mid-October all the returns have been processed and a printed statement of what departmental chairmen have submitted is available to the Dean of the Faculty (as Form 3A, shown earlier). By requiring chairmen to submit their requests within the format of Form 3A, this procedure has the advantage of forcing more or less simultaneous consideration of all the decisions that must be made with respect to the department as a whole and the individual members. The Dean of the Faculty also has available at this time the machine-processed version of Form 5D,

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[1/] Chairmen are not asked to return Form 5D, summarizing requests for the coming year, since completing Form 5D involves primarily the mechanical adding up of various entries on 3A, and this can be done more accurately and easily by computer. Similarly, the entry on Form 10 for academic year faculty salaries is calculated by computer.

which summarizes departmental proposals by rank and shows the proposed distribution of salary cost among general funds, restricted and contract funds, charges to other departments, and leaves. Totals for divisions and the University as a whole are also provided. In addition, the Dean of the Faculty has Form 8, which summarizes differences between the current year and the requests for the budget year.

The Dean of the Faculty's office then evaluates each department's requests primarily on their own merit but also taking into account the totals requested and the degree to which these totals exceed what seems reasonable for the University at that time. The criteria used are many and naturally differ depending on the type of decision to be made. One important feature of the process is that the procedures which lead to requests also generate a body of information sufficient to evaluate them.

The major decision to be made, of course, is the number of positions to be authorized. Form 6 provides information on past, current, and projected enrollments and the number of courses offered on the graduate and undergraduate level. It also includes information on the number of majors in a department, thesis advising to be done, etc.; teaching hours (and instructional cost) per FTE student are shown on Form 7. Sharp changes that would result from granting requests are easily seen, as well as those departments out of line with the University or divisional averages. For fuller information about particular courses and particular faculty, the Course and Faculty Schedule Information System (CAFSIS) can be consulted (CAFSIS is described in Appendix C of this report). No set formulas for agreeing to or rejecting requests are used, but a wide range of information on manpower and dollar costs relative to the need created by student enrollment is available for the Dean of the Faculty to consider.

Also important in evaluating total manning requests by department is the recent history of the department and whether it is one that the University has been trying to build up or whether it is one that has been contracting. Forms 1 and 2 (and their summaries in Forms 5A and 5B) provide information identical to that in Forms 3A and 5D for the current year and the previous year. Form 8 provides a helpful summary of the three year period. In addition, the Dean of the Faculty maintains his own files concerning trends in departmental manning which go back farther in time.

Coverage in terms of fields of specialization is another consideration of crucial importance. It is also the one that is least susceptible to quantitative analysis. A department must be sufficiently broad that it can reasonably cover its subject at graduate as well as undergraduate levels. At a university as relatively small as Princeton, it is impossible to cover all aspects of a subject, so breadth cannot be unlimited. On the other hand, some areas of a subject are crucial enough and multifaceted enough to require even more than two or three people in the area. Proper coverage, then, is a matter of continuous discussion within departments and between departments and the central administration. The presence of this factor is one of the chief reasons why a formula relationship between enrollments and faculty manpower is never a sufficient basis for evaluation, in and of itself.

The distribution between tenured and non-tenured positions and the retirement pattern within the tenured ranks are critically important for the long run health of a department and the University and, accordingly, receive a great deal of consideration in the reviewing process. Too high a tenure ratio robs a department of the vitality young faculty bring and also prevents a department from considering bright young scholars on whom the future of the department will depend. Too low a tenure ratio, on the other hand, will rob the University of the recognized scholars who are so important in their own right to both the scholarly and teaching missions of the University, and whose presence also facilitates the recruitment of bright young faculty who are attracted to the best men in their field. Form 3A's explicit presentation of tenured versus non-tenured positions as well as retirement dates for all faculty is consequently quite important. In budgeting for 1971-72, with the objective of reducing cost as much as possible, great care had to be taken to avoid taking the easy route of making all cuts possible immediately, as this would have meant a sharp rise in the tenure ratio. This same concern for the tenure ratio, as well as the direct cost-saving aspect, led us to encourage the replacement of departing tenured faculty with non-tenured appointments whenever possible.

Much of October and early November was devoted to considering departmental requests in light of the information and criteria discussed above. Chairmen took the opportunity during this period to submit additional material germane to their requests by memo and in person. Preliminary attitudes of the Dean of the Faculty were discussed and preliminary decisions were made. On matters of policy, the President and Provost were consulted. In addition, the views of members of the subcommittee on faculty manning of the Priorities Committee were sought. In November, the results of the preliminary conclusions reached by the Dean of the Faculty were presented to the entire Priorities Committee. Tables were prepared showing in detail the numbers of full-time equivalent faculty proposed for each department and associated salary cost on the basis of: (1) total faculty in each department, and (2) our measure of teaching cost which adjusts the total number of faculty for salaries charged to research grants, purchases and sales from other departments, and anticipated leaves without pay. Table 12 is a summary of what was presented in detail for each department. It also shows the degree of budgetary constraint employed.[1/]

As can be seen from Table 12, the preliminary decisions arrived at department by department reduced the total number of faculty members

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[1/] Special summaries had to be prepared for the Priorities Committee in part because the machine-processed forms are too cumbersome for review by a large group in a relatively short period of time. Also, since salaries of individuals are confidential, no forms containing information of this kind (e.g., Forms 1, 2, and 3A) could be shared with anyone outside the central administration and the departmental chairmen.

Table 12

Summary of Faculty Budgeting Proposals for FY 72

	Total Faculty		Faculty on Teaching Budget	
	FTE's	$	FTE's	$
(1) Actual 1969-70	649.76	10,076,457	553.96	8,579,730
(2) Budgeted 1970-71	691.94	11,088,837	595.12	9,510,924
(3) Requested 1971-72	714.74	11,461,937	631.03	10,043,397
(4) Approved 1971-72	674.35	10,947,017	593.93	9,568,778
(4) - (3) = Cuts in Requests	-40.39	-514,920	-37.10	-474,619
(4) - (2) = Change from 1970-71	-17.59	-141,820	-1.19	57,854

Table 13

Explanation of Changes from 1970-71 Budget to Proposed 1971-72 Budget

	Total Faculty		Faculty on Teaching Budget	
	FTE's	$	FTE's	$
(1) Total Change	-17.59	-141,820	-1.19	57,854
(2) Net Increases that Carry their own Funds	6.40	118,881	7.36	141,198
(3) Net Increases due to Prior Commitments	5.90	105,500	3.84	57,000
(4) Remaining Net Change	-29.89	-366,201	-12.39	-140,344

significantly and the teaching manpower slightly in the face of an expanding undergraduate student body. (In comparing the dollar figures, it is important to remember that salary increases are not included in the figures for 1971-72.)

A more precise picture of the budget recommendations for FY 72 can be obtained by separating from the total those changes that carried with them their own funds or represented prior commitments. This is done in Table 13.

Line (4) of Table 13 shows clearly that for those decisions that affected University funds and that had not been made previously, the proposals for 1971-72 represented a significant reduction from 1970-71: $140,344 in charges to the teaching budget. The $366,201 change in total faculty includes as well changes in sponsored projects and leaves of absence without pay, again exclusive of salary increases.

After a full discussion within the Priorities Committee, the proposals summarized above were incorporated within the larger set of budget proposals being developed by the Committee. When the entire review process was completed, and these proposals had been approved by the President, an "approved" Form 3A was generated and returned to each department. This form showed explicitly which positions were authorized and which requests had had to be denied. The approved Form 3A was accompanied by a memo from the Dean of the Faculty explaining the decisions. Also, all departmental chairmen received copies of the Report of the Priorities Committee for distribution to their faculty members. The section on faculty manning in the 1971-72 Report of the Priorities Committee (pp. 202-207) served to explain further the thinking of the Committee regarding faculty positions.

When they received their approved Form 3A's, departments began to propose candidates to fill the authorized positions. Of course, informal inquiries and recruiting efforts had been going on for some time, but chairmen had been asked to delay making any formal proposals for appointments or reappointments until the entire set of faculty manning decisions had been made. The procedure for filling authorized positions is entirely separate from the procedure for obtaining authorizations, although many of the same administrative officers are involved in both operations. Where the authorized positions involve the reappointment or promotion of an assistant professor or an appointment to associate or full professor, the proposal has to be considered by the Faculty Advisory Committee on Appointments and Advancements and then acted on by the President or Provost. In considering proposals, this Committee is concerned with the qualifications of the individual; it takes as "given" the need for the position as it has been determined by the budgetary process. Actually, however, there is close coordination between the process of authorizing positions and the process of filling positions since the Dean of the Faculty, the Provost, and the President participate actively in both sets of decisions.

To complete the general account of the faculty manning process, some appeals were made for reconsideration of disapproved requests for authorizations, and a few were granted on the basis of new information or outside funding. In addition, some positions were vacated due to unanticipated resignations, and replacement decisions had to be made. In March, however, when a trial balance was run, the manning situation was within 1% of the summary table above. Arrival of fall enrollment numbers led to a few more requests, mostly for Instructors, and recommendations on these requests were submitted by the Dean of the Faculty to the Provost and President for final approval. By that time, work had started on the FY 73 budget.

Faculty Budgeting for a Particular Department: Economics. -- In order to see more concretely the types of decisions that must be made and the uses of the information presented on the major forms, we have decided to add a few comments on the Economics Department, which we have been using for illustrative purposes throughout this section.

The requests of the department for new appointments are clearly labeled N140XX on Form 3A. They consist of a replacement for a Full Professor who retires, two new Assistant Professors, replacement of a part-time Instructor and an additional Instructor, and a part-time Visiting Professor who would replace in a specialized course the only man in that field (for whom leave was requested that year). The teaching manpower in Economics is also affected by substantial sales to and from other departments, especially the Woodrow Wilson School of Public and International Affairs.

Forms 5A, 5B, and 5D provide a three-year picture of the manning situation. Item 9H on Form 5A shows the department's faculty was 29.33 in 1969-70; item 9H on Form 5D shows that this number would fall to 27.51 in 1971-72 if all requests were granted. In terms of persons on the teaching budget, however, the department's manpower rose from 18.92 in 1969-70 (item 10L on Form 5A) to 22.50 in 1970-71 (item 10L on Form 5B) and would be 22.04 in 1971-72 (item 10L on Form 5D). The main source of this difference is fairly technical, having to do with changes in the "home base" of certain faculty members, among other things, and this is not the place to explain it in detail. What is important to note is that simply by counting heads (number of FTE's on the departmental budget) one would feel the department was "tight," even granting all their requests. The current budget system, on the other hand, which is designed to count all teaching manpower in the "teaching budget" figures, shows that in fact the department would remain substantially above its 1969-70 level if all its requests were granted.

The decisions for this particular department in terms of specific requests were made fairly easily. Form 6 showed enrollments had risen; however, CAFSIS showed that courses in the department usually had two lectures and one class (not a precept) per week. Since the class sizes (fifteen to twenty-two students) did not appear to be excessively large, it was felt that additional enrollments could be handled by existing manpower in slightly larger classes. The Instructors requested by the department were to be used in the introductory courses and neither was granted, as the department was advised to use graduate student Assistants in Instruction should enrollments expand in these courses.[1] The Visiting Professor was denied, as the one course he was to teach was not a prerequisite and could be dropped for one year without disrupting any student's program. The request that the department be allowed to replace the retiring holder of the Walker Professorship, on the other hand, raised very different issues. The holder of this endowed chair is normally also the Director of the prestigious International Finance Section, and Princeton has had a long history of good work in this field. A search had begun over a year before and it was believed that the department might be able to attract an exceptionally able person. For this combination of reasons, approval was given. One new assistant professorship was granted, largely due to an absence of full coverage in the particular field. The other assistant professorship was not granted since two replacement appointments were in this field, and with the other faculty already here, the area seemed well staffed.

In all, 2.51 FTE's were cut from the department's requests. This left Economics slightly above its 1969-70 staffing level, with an increase commensurate with the department's increase in majors. It should be noted that later in the year an Assistant Professor resigned and one of the Instructor positions was then authorized as a replacement, the time of year being too late to permit a full search for a new Assistant Professor. Another Assistant Professor left during the budget process and his replacement at that rank was authorized.

Two requests for promotion to tenure rank are shown on Form 3A. In evaluating these requests, two factors were particularly important. The age distribution of the department is young (only one retirement in the 1970's), which argues against the request. On the other hand, Form 5B showed that the department had fallen one in its tenured ranks in recent years and that its tenure ratio was well below 50% while the University average is close to 66%. The department was allowed to go ahead and submit papers supporting these proposals. As noted above, the final determination in such matters is in the hands of the Faculty Advisory Committee on Appointments and Advancements, the President, and the Trustees, who judge the qualifications of the individuals. At this juncture the issue was solely the distribution of positions and whether the proposals could be brought before the Committee on Appointments and Advancements.

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[1] It should be noted that the Dean of the Graduate School makes decisions on the allocation of fellowships after the distribution of Assistants in Instruction is made. This coordination means the additional use of AI's will not alter materially the total or distribution of graduate student support in the University.

Columns M and N of Form 3A show requests for leaves of absence. These are supplemented by statements outlining the purposes of the leaves. In the case of this department, almost all the leaves are junior faculty leaves. Under the "1-in-6" program, each assistant professor is entitled to a term's leave with pay during his or her first appointment. Based on the number of tenured faculty, each department is also given a quota of leaves for its entire faculty, and this department had proposed two leaves -- which is within quota. The general pattern of leaves, then, could be approved. The particular requests, however, could only be acted on when the statement of purpose by each individual was received. As with promotion, the key issue at this point was the totals as they affected the manning plan for FY 72, not the cases of particular individuals.

At this point, a revised Form 3A which eliminated the disapproved requests and left the approved ones was returned to the department, along with a memo from the Dean of the Faculty explaining the actions. All positions for new appointees were assigned "dummy" payroll numbers so that the department, the Dean of the Faculty, and the Controller could keep track of them in a straightforward way.

One final comment: the Dean of the Faculty must be careful that the budgeted distribution of salaries is adhered to. In this department's case, a situation developed that is hard to avoid but is costly. As seen on

Form 3A, a portion of some faculty salaries is picked up by sponsored projects. Unfortunately, the project grant was not renewed and general funds had to fill the gap. This was not serious for this department, as the amount was small and no new appointments or positions had been approved on the basis of outside support. In general, however, it is important to be sure that a department's estimate of outside support is realistic before commitments are made. This is one respect in which the Dean of the Faculty has only limited information at his disposal and has to rely on the estimates of others.

Budgeting in Specific Areas: Undergraduate Student Aid

The section of the 1971-72 Report of the Priorities Committee dealing with undergraduate student aid (pp. 229-236) contains a detailed discussion of the conclusions reached regarding student aid and of the rationale for the recommendations advanced. Here we attempt to supplement that discussion of substance by describing the steps involved in arriving at the recommendations presented in the Report.

Preliminary Analysis. -- In the summer preceding the fall budget cycle a framework was developed for summarizing the various pieces of information needed to evaluate alternative proposals regarding student aid. At the same time, the basic data were collected and summarized in the form required for further analysis. Then, early in the fall, the Office of the Dean of the College and the Bureau of Student Aid were asked to make a series of detailed calculations showing the implications of a variety of alternative proposals for the University budget and for numbers of students assisted.

The best way to illustrate what was done is by presenting some of the basic tables used in the work. Tables 14, 15, and 16 contain the underlying data on enrollment projections, estimated student budgets (i. e., the cost of attending Princeton to the student and his family), and estimated sources of support for the student other than scholarships (family contributions, loans, term employment, summer earnings).

As can be seen, all of these tables contain data for Fiscal Years 73 and 74 as well as 72. This was in keeping with our general approach toward the development of the budget for FY 72 in that we were seeking to make recommendations for FY 72 in the context of a provisional plan extending through FY 74. Moreover, in the case of financial aid the need for forward planning is particularly critical because of what are really four-year commitments made to entering freshmen.

The enrollment projections (Table 14) are straightforward. They show, class by class, the implications for the size of the undergraduate body of the initial plan for coeducation adopted by the Trustees.[1]

The estimates of student budgets (Table 15) show our best guesses at the time of what it will cost the typical undergraduate to attend Princeton in each year through FY 74. The projected increases in tuition and room and board charges shown on this table were based on initial assumptions; as has already been noted above, we subsequently revised our provisional estimates for tuition increases in FY's 73 and 74. (The differences in expenses in a given year for juniors and seniors, compared with freshmen and sophomores, result from the fact that many upperclassmen eat in colleges or clubs while most underclassmen eat in Commons -- a set of central dining halls.)

The assumptions concerning ways of meeting individual student budgets other than through scholarships (summarized in Table 16) are extremely important because it is the difference between the total budget and the family contribution plus "self-help" (loans plus summer work plus term-time work) that determines scholarship requirements. The current year's base for family contributions comes from the College Scholarship Service Needs Analysis as adjusted for individual students enrolled at Princeton. Family contributions for classes already enrolled were assumed to grow 5% per year. For each incoming class we used the average family contribution for the current year's entering class inflated at 5% per year. Summer employment and term employment assumptions

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[1] Subsequently (in the spring of 1971) the Trustees adopted a revised plan which called for larger increases in the student body, and all of our calculations pertaining to student aid were revised accordingly. However, these revisions did not alter the basic policies adopted in the fall budget process and to have included the revised figures with the original calculations here would have complicated the presentation without adding anything of substance.

Table 14

Undergraduate Enrollment

FY 69 to FY 74

	FY 69 (actual)	FY 70 (actual)	FY 71 (actual)	FY 72 (estimate)	FY 73 (estimate)	FY 74 (estimate)
Freshmen	841	903	981	1, 000	1, 000	1, 000
Sophomores	814	845	946	997	991	991
Juniors	788	841	886	974	995	988
Seniors	789	791	856	895	968	973
TOTAL	3, 232	3, 380	3, 669	3, 866	3, 954	3, 952

Table 15

Undergraduate Student Budgets

FY 69 to FY 74

	Base Year											
	FY 69 (actual)		FY 70 (actual)		FY 71 (actual)		FY 72 (estimate)		FY 73 (estimate)		FY 74 (estimate)	
	Fr/So	Jr/Sr	Fr/So	Jr/Sr	Fr/So	Jr/Sr	Fr/So	Jr/So	Fr/So	Jr/Sr	Fr/So	Jr/Sr
Tuition and Fees	$2,150	$2,150	+200	+200	+150	+150	+300	+300	+200	+200	+200	+200
Room	470	470	0	0	+ 60	+ 60	+ 50	+ 50	+ 55	+ 55	+ 60	+ 60
Board	690	890	0	+ 20	+ 50	+ 80	+ 50	+ 75	+ 55	+ 80	+ 60	+ 85
Misc.	590	590	0	0	+ 40	+ 40	+ 30	+ 30	+ 30	+ 30	+ 35	+ 35
Travel	130	130	0	0	0	0	+ 10	+ 10	+ 10	+ 10	+ 10	+ 10
Total Budget	$4,030	$4,230	$4,230	$4,450	$4,530	$4,780	$4,970	$5,245	$5,320	$5,620	$5,675	$6,010
Total Increase			(+200)	(+220)	(+300)	(+330)	(+440)	(+465)	(+350)	(+375)	(+365)	(+390)

Table 16

Sources of Support Other than Scholarships For Undergraduates Needing Financial Aid

(Average per Scholarship Student)

FY 71 to FY 74

	FRESHMEN		SOPHOMORES		JUNIORS		SENIORS	
	Disad-vantaged	Other	Disad-vantaged	Other	Disad-vantaged	Other	Disad-vantaged	Other
FY 71 (estimate)								
Family Contribution	$ 180	$1,565	$ 130	$1,305	$ 280	$1,510	$ 180	$1,355
Loan	500	500	500	500	500	500	500	500
Term Employment	450	450	500	500	500	500	500	500
Summer	400	400	500	600	600	600	600	600
Total	$1,530	$2,915	$1,630	$2,905	$1,880	$3,110	$1,780	$2,955
FY 72 (estimate)								
Family Contribution	$ 180	$1,640	$ 180	$1,640	$ 130	$1,370	$ 280	$1,585
Loan	600	600	600	600	600	600	600	600
Term Employment	500	500	550	550	600	600	600	600
Summer	500	500	500	600	550	650	550	650
Total	$1,780	$3,240	$1,830	$3,390	$1,880	$3,220	$2,030	$3,435
FY 73 (estimate)								
Family Contribution	$ 180	$1,720	$ 180	$1,720	$ 180	$1,720	$ 130	$1,440
Loan	700	700	700	700	700	700	700	700
Term Employment	550	550	600	600	650	650	650	650
Summer	550	550	550	650	600	700	600	700
Total	$1,980	$3,520	$2,030	$3,670	$2,130	$3,770	$2,080	$3,490
FY 74 (estimate)								
Family Contribution	$ 180	$1,810	$ 180	$1,810	$ 180	$1,810	$ 180	$1,810
Loan	800	800	800	800	800	800	800	800
Term Employment	600	600	650	650	700	700	700	700
Summer	600	600	600	700	650	750	650	750
Total	$2,180	$3,810	$2,230	$3,960	$2,330	$4,060	$2,330	$4,060

were based on recent experience at Princeton. The initial loan assumptions were based on a combination of past experience and a feeling that this component should increase somewhat.

Table 16 distinguishes between: (a) "disadvantaged" and (b) "other" students needing financial aid. The disadvantaged category includes all students from families with incomes below $7,500 (with some adjustments for family size and other variables). We prepared separate estimates for this group because: (1) the University has been committed to a special effort to enroll disadvantaged students; (2) this group is eligible for special governmental programs; and (3) the circumstances of the families in this category differ so much from the circumstances of many other families of students needing financial aid that different assumptions were made concerning loans and summer savings as well as family contributions. The average scholarship is, of course, much higher for the disadvantaged group and the number of students in this category has a considerable effect on the total scholarship budget. For all of these reasons we found it helpful to divide students into "disadvantaged" and "other" in analyzing undergraduate student aid. (It should be emphasized that the figures given in this table and all subsequent tables for "disadvantaged" and "other" are averages for all students needing financial aid.)

The background information contained in Tables 14-16 was used to calculate the implications of an initial series of alternative approaches to student aid over the period FY 72 through FY 74. The alternatives specified for this initial analysis were of two types: one set of alternatives started with assumptions about the percentages of "disadvantaged" and "other" students on financial aid who would be enrolled in the entering class and derived the amount of scholarship money needed; the other set of alternatives started with assumptions about the amount of scholarship money that would be available and derived combinations of percentages of disadvantaged and other students who could be offered scholarships under the dollar constraint. The results of this exercise are summarized in Table 17.

Table 18 is one of the set of twenty-one worksheets used to derive the figures shown on Table 17. A separate worksheet was prepared for each of the seven alternatives for each of the three fiscal years under study. This particular worksheet contains the calculations behind "Alternative I" for FY 72 -- which started with the assumption that the entering class in each year from 1971-72 through 1973-74 would contain 10% economically disadvantaged students and 42% other students on scholarship and then derived the financial implications. (This was labeled the "current plan" because it corresponded roughly to what had been done the previous year (FY 71), with the difference that the percent of "other" students on scholarship was 39% in FY 71.) The first step in completing this worksheet (and the comparable worksheets for all of the other alternatives for each of the three fiscal years under consideration) was to calculate the amount of scholarship funds needed over the next three years for students already enrolled. Everyone was agreed that the needs of this group represented the first claim on our resources. The scholarship funds for FY 72 needed by the current year's freshman, sophomore, and junior classes were calculated directly as the difference between the total student budget (Table 15) and the total of non-scholarship items helping to meet the student budget (Table 16), multiplied by the enrollment figures for the categories. We assumed that the percentages of "disadvantaged" and "other" students on scholarship in each class remained constant as that class progressed through the University, but we did allow for general attrition and transfers as reflected in the enrollment figures in Table 14. After calculating the scholarship amount for students already enrolled, the amount that would be needed for the entering class was calculated analogously.

In transferring the results for each alternative in each fiscal year from a worksheet to Table 17, an additional programmatic calculation was made: the Director of the Bureau of Student Aid estimated for each entering class the number of admitted students who would normally qualify for student aid but for whom no scholarship aid would be available because

Table 17

Undergraduate Financial Aid

Implications of Alternative Plans

FY 69 to FY 74

	FY 69 Actual	FY 70 Actual	FY 71 Budget	FY 72	FY 73	FY 74
ALTERNATIVE I - (Current Plan)						
Entering Class						
% Disadvantaged in Class	5%	5%	10%	10%	10%	10%
% "Other" on Scholarship	42%	44%	39%	42%	42%	42%
Scholarship Need Stds. not Offer. Scholarships	20	0	0	0	0	0
Scholarships - All Classes ($ Thousands)						
Total Scholarships	2, 353	2, 796	2, 999	3, 635	4, 009	4, 213
General Funds Required	100	276	510	1, 055	1, 309	1, 385
ALTERNATIVE IIa - (General Funds Constant)						
Entering Class						
% Disadvantaged in Class	5%	5%	10%	10%	10%	10%
% "Other" on Scholarship	42%	44%	39%	7%	19%	47%
Scholarship Need Stds. not Offer. Scholarships	20	0	0	315	207	0
Scholarships - All Classes ($ Thousands)						
Total Scholarships	2, 353	2, 796	2, 999	3, 090	3, 210	3, 337
General Funds Required	100	276	510	510	510	510
ALTERNATIVE IIb - (General Funds Constant)						
Entering Class						
% Disadvantaged in Class	5%	5%	10%	0%	0%	10%
% "Other" on Scholarship	42%	44%	39%	25%	42%	42%
Scholarship Need Stds. not Offer. Scholarships	20	0	0	170	0	0
Scholarships - All Classes ($ Thousands)						
Total Scholarships	2, 353	2, 796	2, 999	3, 090	3, 210	3, 337
General Funds Required	100	276	510	510	510	510
ALTERNATIVE IIIa (Gen. Fds. halfway between I & II)						
Entering Class						
% Disadvantaged in Class	5%	5%	10%	10%	10%	10%
% "Other" on Scholarship	42%	44%	39%	24%	33%	42%
Scholarship Need Stds. not Offer. Scholarships	20	0	0	162	81	0
Scholarships - All Classes ($ Thousands)						
Total Scholarships	2, 353	2, 796	2, 999	3, 362	3, 608	3, 774
General Funds Required	100	276	510	782	908	947

Table 17 (continued)

	FY 69 Actual	FY 70 Actual	FY 71 Budget	FY 72	FY 73	FY 74
ALTERNATIVE IIIb (Gen. Fds. halfway between I & II)						
Entering Class						
% Disadvantaged in Class	5%	5%	10%	0%	6%	9%
% "Other" on Scholarship	42%	44%	39%	40%	42%	42%
Scholarship Need Stds. not Offer. Scholarships	20	0	0	20	0	0
Scholarships - All Classes ($ Thousands)						
Total Scholarships	2, 353	2, 796	2, 999	3, 362	3, 608	3, 774
General Funds Required	100	276	510	782	908	947
ALTERNATIVE IV - ("Smoothed" Alternative between I & II)						
Entering Class						
% Disadvantaged in Class	5%	5%	10%	10%	10%	10%
% "Other" on Scholarship	42%	44%	39%	35%	35%	35%
Scholarship Need Stds. not Offer. Scholarships	20	0	0	63	63	63
Scholarships - All Classes ($ Thousands)						
Total Scholarships	2, 353	2, 796	2, 999	3, 526	3, 793	3, 866
General Funds Required	100	276	510	946	1, 093	1, 038
ALTERNATIVE V - (Alternative IV with 8% Disadvantaged)						
Entering Class						
% Disadvantaged in Class	5%	5%	10%	8%	8%	8%
% "Other" on Scholarship	42%	44%	39%	35%	35%	35%
Scholarship Need Stds. not Offer. Scholarships	20	0	0	64	64	64
Scholarships - All Classes ($ Thousands)						
Total Scholarships	2, 353	2, 796	2, 999	3, 474	3, 685	3, 692
General Funds Required	100	276	510	894	985	864

Table 18

Financial Aid Worksheet

Alternative I

	DISADVANTAGED					OTHER					TOTAL				
	No. of Students	# With Aid	% With Aid	Amount	Average	No. of Students	# With Aid	% With Aid	Amount	Average	No. of Students	# With Aid	% With Aid	Amount	Average
Seniors															
Scholarships	45	45	100	144,675	3,215	850	357	42	646,170	1,810	895	402	45	790,845	1,967
Loans	45	45	100	27,000	600	850	323	38	193,800	600	895	368	41	220,800	600
Employment	45	45	100	27,000	600	850	425	50	255,000	600	895	470	53	282,000	600
Total	45	45	100	198,675	4,415	850	425	50	1,094,970	2,576	895	470	53	1,293,645	2,752
Juniors															
Scholarships	53	53	100	178,345	3,365	921	387	42	783,675	2,025	974	440	45	962,020	2,186
Loans	53	53	100	31,800	600	921	350	38	210,000	600	974	403	41	241,800	600
Employment	53	53	100	31,800	600	921	461	50	276,600	600	974	514	53	308,400	600
Total	53	53	100	241,945	4,565	921	461	50	1,270,275	2,755	974	514	53	1,512,220	2,942
Sophomores															
Scholarships	100	100	100	314,000	3,140	897	377	42	595,660	1,580	997	477	48	909,660	1,907
Loans	100	100	100	60,000	600	897	305	34	183,000	600	997	405	41	243,000	600
Employment	100	100	100	55,000	550	897	449	50	246,950	550	997	549	55	301,950	550
Total	100	100	100	429,000	4,290	897	449	50	1,025,610	2,284	997	549	55	1,454,610	2,649
Freshmen															
Scholarships	100	100	100	319,000	3,190	900	378	42	653,940	1,730	1,000	478	48	972,940	2,035
Loans	100	100	100	60,000	600	900	306	34	183,600	600	1,000	406	41	243,600	600
Employment	100	100	100	50,000	500	900	450	50	225,000	500	1,000	550	55	275,000	500
Total	100	100	100	429,000	4,290	900	450	50	1,062,540	2,361	1,000	550	55	1,491,540	2,711
All Classes															
Scholarships	298	298	100	956,020	3,208	3,568	1,499	42	2,679,445	1,787	3,866	1,797	46	3,635,465	2,023
Loans	298	298	100	178,800	600	3,568	1,284	36	770,400	600	3,866	1,582	41	949,200	600
Employment	298	298	100	163,800	550	3,568	1,784	50	1,003,550	560	3,866	2,083	54	1,167,350	560
Total	298	298	100	1,298,620	4,358	3,568	1,784	50	4,453,395	2,496	3,866	2,083	54	5,752,015	2,761

of the constraints underlying the alternative. These numbers are shown on Table 17 under each alternative opposite the line "Scholarship Need Stds. Not Offer. Scholarships." These numbers served as direct measures of the shortfalls associated with the various alternatives.

Table 17 also contains one final piece of summary information: the amount of general funds, as distinguished from total scholarship funds, required by each alternative. These numbers were obtained simply by subtracting the amounts of scholarship aid anticipated from endowment, gifts and grants, and Equal Opportunity Grants, as summarized on Table 19, from the total scholarship bill as shown on the various worksheets. However, while the claim on general funds thus appears as a residual (and was so calculated for the alternatives that began with assumptions about the numbers of students to be awarded scholarships), the amount of general funds was stipulated in the case of other alternatives (for example, Alternative II, which assumed a constant contribution from general funds, at the FY 71 level, through FY 74), and the effect on numbers of scholarship students was calculated as the residual. As can be seen from the entries for Alternatives II and III on Table 17, calculating the numbers of students on scholarship in the entering class as a residual can produce some sharp changes from one year to the next in admission policies (in an extreme case, for example, going from 10% to 0% disadvantaged students). In practice, such sharp swings could not even be considered, and some smoothing would be needed. Alternative IV is an example of a smoothed version of an earlier alternative.

The above discussion has emphasized the scholarship element of student aid packages because that is the element that requires explicit provision in the operating budget. Loans and term-time employment are also provided by the University (in some cases through participation in Government programs), and it was also necessary to consider what could be done for student aid under these headings. The estimates under each alternative for each fiscal year are shown on the worksheets (as can be seen from Table 18), and separate summaries were prepared for these components.

Table 19

Sources of Scholarship Funds for Undergraduates

FY 69 to FY 74

	FY 69 (actual)	FY 70 (actual)	FY 71 (actual)	FY 72 (estimate)	FY 73 (estimate)	FY 74 (estimate)
Endowment Income	$1,648,300	$1,881,750	$1,945,700	$2,000,000	$2,120,000	$2,247,200
Gifts and Grants	545,000	546,000	463,000	500,000	500,000	500,000
Equal Opportunity Grants	59,500	92,600	80,000	80,000	80,000	80,000
TOTAL	$2,252,800	$2,520,350	$2,488,700	$2,580,000	$2,700,000	$2,827,200
General Funds	$ 100,000	$ 275,550	$ 510,300			

Deliberations Within the Committee. -- The full results of the preliminary analysis described above (including all worksheets and summaries of loan accounts and work opportunities) were made available to the Priorities Committee as it began to discuss the difficult issues of principle and of practice involved in making recommendations concerning student aid. These same materials had been presented earlier to the Faculty Committee on Undergraduate Admissions and Financial Aid, and that committee prepared a lengthy memorandum for the Priorities Committee describing the evolution and philosophy of admissions at Princeton and advocating a new alternative, called "Alternative O." This alternative was based on the principle that admission decisions should be made entirely without regard to need and that all scholarship funds needed for students admitted should be provided. With regard to numbers of students, the Faculty Committee argued in its memorandum that the numbers shown on Table 17 for students who would normally be admitted but for whom no scholarship funds had been (or would be) available were incomplete. Their memorandum noted that the numbers shown on Table 18 for the current year did not include students who had been offered admission from the waiting list. The Director of the Bureau of Student Aid estimated that including waiting list admits, 47% of non-disadvantaged entering students would qualify for scholarships in FY 72 if past admission practices were followed. If the budget allowed for only 42% of these non-disadvantaged students to receive scholarships (Alternative I), then forty-five students needing scholarships would not receive them. The general funds implied by Alternative O were just over $1.1 million in FY 72, over $1.5 million in FY 73, and nearly $1.9 million in FY 74, as compared with $1,055,000 in FY 72, $1,309,000 in FY 73, and $1,385,000 in FY 74 under Alternative I.

After lengthy discussion of both the original material and this supplementary memorandum, the Priorities Committee concluded that the overall budgetary situation -- and particularly the need to reverse the trend toward rising deficits and to achieve approximate budget balance by FY 74 -- simply did not permit it to recommend the general funds called for by the "current plan" (Alternative I), let alone the far larger outlays, especially for FY's 73 and 74, implied by Alternative O. At the same time, the Committee was also very reluctant to recommend any of the less expensive alternatives shown on Table 17 because of what they implied concerning limitations on access to the University. In attempting to think through a more acceptable policy that would be possible financially, the Committee went back and reconsidered some of the "self-help" assumptions underlying all of the preliminary analysis. The members of the Committee saw that budgetary constraints forced trade-off between: (1) decreasing the percentage of entering students receiving scholarships; and (2) increasing the self-help components (loans and work) of the student aid packages.

To assist it in further consideration of financial aid policies, the Committee asked that some additional alternatives be developed and then summarized in the same form as the original alternatives. Further study of the actual summer experiences of students revealed that the average summer employment earnings could be increased by $100 for non-disadvantaged students, but not for disadvantaged students. The six additional alternatives all assumed the additional $100 for summer employment. They differed in the amounts of the increases in the loan components assumed for the "disadvantaged" and "others." The Committee finally decided to recommend a plan which differed slightly from one of the six new alternatives. This plan is described in detail in the 1971-72 Report of the Priorities Committee. In brief, it was designed to avoid reductions in percentages of "disadvantaged" and "others" on scholarships in the entering class, taking the current freshman class as the base, but it also involved increasing substantially the "self-help" part of the student aid package. Under the recommended plan the loan component would be increased to $800 in FY 72, $900 in FY 73, and $1,000 in FY 74 for non-disadvantaged students, as compared with $600, $700, and $800 as assumed earlier (see Table 16). For disadvantaged students, the Committee recommended that loan expectations continue to be $600 in FY 72,

$700 in FY 73, and $800 in FY 74, as originally assumed. The final plan recommended by the Committee followed the memorandum described earlier in treating waiting list admits as included in the count of those who would normally be admitted but for whom no scholarship funds would be available if past admissions practices were followed.

Stated in the format of Table 17, the Committee's final recommendations looked as follows:

Table 20

Undergraduate Financial Aid
Final Recommendations
FY 72 to FY 74

	FY 69 Actual	FY 70 Actual	FY 71 Budget	FY 72	FY 73	FY 74
Recommended Plan						
Entering Class						
% Disadvantaged in Class	5%	5%	10%	10%	10%	10%
% "Others" on Scholarship	42%	44%	39%	40%	40%	40%
Scholarship Need Students Not Offered Scholarships	52	0	50	63	63	63
Scholarships - All Classes ($ Thousands)						
Total Scholarships	2,353	2,796	2,999	3,350[1]	3,628[1]	3,925[1]
General Funds Required	100	276	510	716	888	999

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[1] To obtain numbers shown in budget for Undergraduate Scholarships and Prizes, 272 must be added for prizes and for summer and other awards not related to need.

Final Comment. -- Our experience in budgeting for undergraduate student aid seems to us to serve as a useful illustration of several general themes: (1) the importance of basing recommendations for programs involving future financial commitments on explicit calculations of their cost in future years so that the full implications of what is being recommended will be seen in time; (2) the way in which explicit statements of assumptions and the costing out of alternatives can lead to a greater willingness to consider unpleasant trade-offs (in this instance, fewer scholarship students versus putting more reliance on self-help) than might otherwise have been the case; and (3) the importance of permitting the consideration of recommendations to take place in an iterative fashion, with the unwillingness of the Committee to opt for any of the first set of alternatives leading to the development of a second set of possibilities, and, finally, to a recommended plan that was a modification of one of the second-round alternatives. If analysis is to be kept in its proper place -- as an aid in decision-making, not as something that proceeds automatically from assumptions that are inevitably somewhat arbitrary to an immutable set of conclusions -- there must be a good relationship, and considerable interaction, between those responsible for making policy decisions and those doing the analysis.

Budgeting in Specific Areas: Dormitories and Food Services

Princeton, like many other colleges and universities, has had difficulty in recent years in achieving a "break-even" result for its dormitory and dining facilities. Indeed, in FY 70 undergraduate dormitories and food services ran a deficit of approximately $350,000.[1/]

In view of the magnitude of this deficit, and the fact that many sensitive and complicated issues of educational policy as well as economics were involved, we decided to conduct a special study of this whole area of operation in anticipation of the fall budget cycle. This study was conducted by Mary E. Procter and James P. Mnookin, and it served as the basis for the Priorities Committee's consideration of dormitories and food services. For institutions with arrangements similar to Princeton's (where educational activities interact in varying degrees with living and dining arrangements and students can choose among a variety of facilities including colleges, clubs, a central dining hall, and use of a student center), the entire study may be of interest. Copies of the full report are available from the Office of the Provost.

The core of the analysis performed in the study was a careful assessment of the costs and revenues associated with each component of the dormitory and dining system. For budgeting and planning, direct costs had to be understood in great detail so that the University could see which factors significantly affected the expenditures of the department. For example, we needed to know the impact of varying participation rates (that is, differences in the percentages of total available meals that are actually eaten by students with meal contracts), as well as the mix of fixed and variable costs at each facility and the effect of, say, a 1¢

[1/] This includes charges to dormitories and food services for their full share of indirect operating costs, but makes no provision for any imputed return on the University's substantial capital investment in these facilities.

increase in the cost of food for each meal. By examining these and other questions, we hoped to be in a position to initiate some economies and, equally important, to project expenditures more accurately and to relate charges more directly to costs. Indirect costs also had to be understood and applied as accurately as possible, and the details of the indirect cost allocation were given in the Procter-Mnookin Report.

After collecting the total expenses for each facility, the study grouped the income from the users of each facility with its expenses (taking account of meal transfers between facilities), and calculated the net surplus or deficit in the current year. Each of the expense items (direct and indirect) was then projected for three years in the future, using both "high" and "low" assumptions, and the net surplus or deficit was derived for existing charges and alternative percentage increases. Table 21 shows a summary of the results of this analysis assuming (for purposes of analysis only) a continuation of 1970-71 prices. Table 22 contains similar data for housing.

These results led to several types of choices for the Committee, each of which had some effects on the other decisions to be made. The major choice to be made concerned the percentage increases in charges to be recommended. As is explained in detail in the 1971-72 Report of the Priorities Committee (pp. 194-199), the Committee agreed that it should recommend that the dormitory and dining system reach a self-sustaining basis within three years. Considerations of equity and efficiency, as well as financial necessity, argued for this conclusion. However, before a decision regarding the actual yearly increases could be made, it was necessary to determine which facilities would be operating as well as the details of the contracts offered. It was understood that even if the entire dormitory and dining system were to reach a self-sustaining basis, some facilities might have modest deficits which would be offset by small surpluses in other areas. In most cases where modest deficits were anticipated (see, for example, the discussion of Madison Hall), the Committee felt that the educational benefits of the facility were worth the load placed on the overall dormitory and dining system. However, in the case of one small college-type facility (Terrace) the Committee recommended that it be closed because its benefits to students did not seem to justify the extra strain it put on the finances of the system as a whole.

The Committee also looked into the details of the contracts offered. It recommended that the variety of contracts offered be decreased to simplify operations. In addition, it recommended further savings by eliminating from contracts the meals over holiday periods when many students are away. This step also seemed desirable from an equity standpoint since there was no good reason why all students should subsidize those who chose to eat in University dining halls during these periods.

Knowing the savings which would result from closing one facility, decreasing the variety of contracts, and eliminating holiday meals from contracts, the Committee then was in a position to recommend a set of increases in charges which could be expected to remove the overall University subsidy to student dormitories and dining within three years (a $60 per year increase in board contracts and a $50 per year increase in dormitory charges).

Table 23 (lifted from the Procter-Mnookin Report) summarizes the choices faced by the Committee and also shows some of the areas of uncertainty in the costing. As this table illustrates, the Procter-Mnookin Report served the important purpose of clarifying and quantifying the trade-offs that had to be considered: closing one or more facilities or changing the coverage of contracts versus larger price increases, and so on. The table is not entirely self-explanatory but depends to some extent on other parts of the study. However, we include it here to give an impression of the type of information available to the Committee from the Report.

Finally, as always seems to be the case with studies of this kind, new questions have arisen to replace old ones. Following development of the proposals described in the 1971-72 Report of the Priorities Committee, a new study was undertaken to ascertain the effects of releasing sophomores from compulsory meal contracts. And, in the course of studying this question, the projections and analysis in the Procter-Mnookin Report were reviewed and updated in the light of actual results for FY 71.

The more recent study estimated that the cost to the University of releasing all sophomores from compulsory meal contracts would be $300,000; and, in order to recover most of that cost, room charges would have needed to be raised by $50 per student. The Faculty Committee on Undergraduate Life felt that this would be too expensive, and it developed a compromise plan that would release 150 sophomores on a trial basis. Those to be released would be chosen by lottery. The cost to Dormitory and Food Services of this plan would be offset by an increase in room charges of $15 per student, while the University would meet most of the cost of increasing student aid by $15 per student receiving aid. However, after a great deal of further discussion (including a student referendum), this plan too was set aside, at least for the time being.

There are several morals to this story. One is that student attitudes toward a problem can change when the costs to them of adopting a certain course of action are made known. A second is that studies of the kind described here are never definitive, but must be viewed as stages in a continuing analysis of major areas of University operations.

Table 21

STUDENT DINING: ESTIMATES OF COSTS, INCOME & DEFICITS FY 69 THROUGH FY 74 (ASSUMING NO PRICE INCREASES), BY DINING HALL

($ Thousands)	Actual		Estimated	Projected with no chg. in Prices		
	FY 69	FY 70	FY 71	FY 72	FY 73	FY 74
COMMONS						
I. 1. Base Contracts (#)	(1410)	(1507)	(1499)	(1482)	(1536)	(1536)
II. Expenses:						
2. Direct Costs	798.1	873.1	965.1	1008.3	1082.4	1148.1
3. Indirect Costs	216.5	263.1	264.8	270.6	276.5	282.7
III. 4. TOTAL COSTS	1014.6	1136.2	1229.9	1278.9	1358.9	1430.8
IV. Income:						
5. Contract Income		1058.0	1125.0	1110.4	1145.7	1145.7
6. Guests & Other		52.0	52.0	52.0	52.0	52.0
7. Transfer Meals		-102.0	-32.0	-32.3	-32.3	-32.3
V. 8. TOTAL INCOME	1040.4	1008.0	1145.0	1130.1	1165.4	1165.4
VI. 9. Difference (+) or (-)	+25.8	-128.2	-84.9	-148.8	-193.5	-265.4
10. (Deficit as % of Total Costs)	(no def.)	(11.2%)	(6.9%)	(11.6%)	(14.2%)	(18.5%)
WILCOX						
I. 1. Base Contracts (#)	(360)	(381)	(348)	(365)	(365)	(365)
II. Expenses:						
2. Direct Costs	309.5	312.8	299.7	325.6	342.2	359.4
3. Indirect Costs	92.7	96.0	97.1	99.7	102.5	105.3
III. 4. TOTAL COSTS	402.2	408.8	396.8	425.3	444.7	464.7
IV. Income:						
5. Contract Income		209.4	280.8	294.6	294.6	294.6
6. Guests & Other		62.0	62.0	62.0	62.0	62.0
7. Transfer Meals		+16.2	+16.2	+17.8	+17.8	+17.8
V. 8. TOTAL INCOME	301.3	287.6	359.0	374.4	374.4	374.4
VI. 9. Difference (+) or (-)	-100.9	-121.2	-37.8	-50.9	-70.3	-90.3
10. (Deficit as % of Total Costs)	(25.0%)	(29.6%)	(9.5%)	(11.9%)	(15.8%)	(19.4%)
STEVENSON						
I. 1. Base Contracts (#)	(180)	(187)	(138)	(140)	(145)	(145)
II. Expenses:						
2. Direct Costs	114.1	133.9	117.0	123.3	131.6	138.0
3. Indirect Costs	38.8	43.1	41.8	42.9	44.0	45.1
III. 4. TOTAL COSTS	152.9	177.0	158.8	166.2	175.6	183.1
IV. Income:						
5. Contract Income		146.5	119.5	121.0	125.3	125.3
6. Guests & Other		11.3	11.3	11.3	11.3	11.3
7. Transfer Meals		-6.2	-6.3	-6.3	-6.4	-6.4
V. 8. TOTAL INCOME	130.8	151.6	124.5	126.1	130.2	130.2
VI. 9. Difference (+) or (-)	-22.1	-25.4	-34.3	-40.1	-45.4	-52.9
10. (Deficit as % of Total Costs)	(14.4%)	(14.3%)	(21.5%)	(24.1%)	(25.8%)	(28.8%)

Table 21 (continued) ($ Thousands)

	Actual	Actual	Estimated	Proj. with no price change		
	FY 69	FY 70	FY 71	FY 72	FY 73	FY 74
TERRACE						
1. Base Contracts		(69)	(81)	(80)	(85)	(85)
2. Direct Costs		82.3	79.0	82.1	88.8	93.1
3. Indirect Costs	XXX	30.2	28.0	28.9	29.6	30.6
4. TOTAL COSTS		112.5	107.0	111.0	118.4	123.7
5. Contract Income		54.0	69.9	69.0	73.3	73.3
6. Guests & Other	XXX	5.0	5.0	5.0	5.0	5.0
7. Transfer Meals		-3.4	-3.4	-3.4	-3.6	-3.6
8. TOTAL INCOME		55.6	71.5	71.5	74.7	74.7
9. Difference (+) or (-)		-56.9	-35.5	-39.5	-43.7	-49.0
10. Deficit as % of Total Costs		(51%)	(33%)	(36%)	(36%)	(39%)
PRINCETON INN						
1. Base Contracts			(311)	(455)	(455)	(455)
2. Direct Costs			169.8	222.1	233.2	244.8
3. Indirect Costs	XXX	XXX	80.8	93.9	96.6	99.4
4. TOTAL COSTS			250.6	316.0	329.8	344.2
5. Contract Income			177.8	261.3	261.3	261.3
6. Guests & Other	XXX	XXX	17.0	18.3	18.3	18.3
7. Transfer Meals			-2.0	-3.3	-3.3	-3.3
8. Net pay-as-you-go Income			18.0	26.3	26.3	26.3
9. TOTAL INCOME			210.8	302.6	302.6	302.6
10. Difference (+) or (-)			-39.8	-13.4	-27.2	-41.6
11. Deficit as % of Total Costs			(15.8%)	(4.2%)	(8.2%)	(12.0%)
TOTALS: UNDERGRADUATE DINING						
1. Base Contracts	(1950)	(2144)	(2377)	(2522)	(2586)	(2586)
2. Total Expenses	1569.7	1834.5	2143.0	2297.4	2427.4	2546.5
3. Total Income	1472.5	1502.8	1910.8	2004.7	2047.3	2047.3
4. Total Deficit	-97.2	-331.5	-232.2	-292.7	-380.1	-499.2
5. Undergraduate Deficit as a % of Total Costs	(6.1%)	(18.0%)	(10.8%)	(14.6%)	(15.6%)	(19.6%)
GRADUATE COLLEGE						
I. 1. Base Contracts (#)	(466)	(484)	(492)	(497)	(497)	(497)
II. Expenses:						
2. Direct Costs	279.4	260.0	257.1	266.0	279.1	293.0
3. Indirect Costs	81.8	63.5	63.7	65.4	67.2	69.0
III. 4. TOTAL COSTS	361.2	323.5	320.8	331.4	346.3	362.0
IV. Income:						
5. Contract Income		236.5	253.7	251.8	251.8	251.8
6. Guests & Other		25.5	25.5	25.5	25.5	25.5
7. Transfer Meals						
V. 8. TOTAL INCOME	310.0	262.0	279.2	277.3	277.3	277.3
VI. 9. Difference (+) or (-)	-51.2	-61.5	-41.6	-54.1	-69.0	-84.7
10. Deficit as % of Total Costs	(14.1%)	(19.0%)	(12.9%)	(16.3%)	(19.9%)	(23.3%)
TOTAL DEFICIT: Undergraduate & Graduate	-148.4	-393.0	-267.2	-340.9	-441.1	-575.8

Table 22

UNDERGRADUATE DORMITORIES: ESTIMATES OF COSTS, INCOME, & DEFICITS -- FY 69 THROUGH FY 74 (ASSUMING NO PRICE INCREASES)

($ Thousands)

	Actual	Actual	Estimated	Projected with no price change		
	FY 69	FY 70	FY 71	FY 72	FY 73	FY 74
I. 1. # of Contracts	(3101)	(3196)	(3451)	(3666)	(3734)	(3734)
II. Expenses:						
2. Total Direct Cost	420.1	423.9	486.7	540.6	573.0	607.5
3. Indirect Costs	1116.4	1123.0	1316.0	1442.8	1507.4	1574.0
4. Plus taxes - Inn			62.4	42.6	37.9	33.9
5. Plus interest and amortization on the Inn	--	--	64.7	210.0	210.0	210.0
III. 6. TOTAL COST	1536.5	1546.9	1929.8	2236.0	2328.3	2425.4
IV. Income:						
7. Contract Income			1829.0	1943.0	1979.0	1979.0
8. Other Income			67.2	68.3	69.5	69.5
V. 9. TOTAL INCOME	1499.3	1526.2	1896.2	2011.3	2048.5	2048.5
VI. 10. Difference (+) or (-)	-37.2	-20.7	-33.6	-224.7	-279.8	-376.9
11. (Difference as % of Total Costs)						
VII. 12. Implicit capital cost (7% of market value annually)	(875.0)	(875.0)	(875.0)	(875.0)	(875.0)	(875.0)

Table 23

DINING SYSTEM: DEFICITS & CHANGES IN DEFICITS -- FY 72 THROUGH FY 74 UNDER VARIOUS PRICING ALTERNATIVES

($ Thousands except where noted)	FY 72: Commons	FY 72: Wilson and Stevenson and Inn	FY 72: Terrace	TOTAL FY 72 (Incl. Terrace)	TOTAL FY 73 (Incl. Terrace)	TOTAL FY 74 (Incl. Terrace)
I. PROJECTIONS: BEST ESTIMATES OF BASE DEFICIT with no price increase						
1. Deficit: low cost increases (from Table 4)	-148.8	-104.4	-39.5	-292.7	-380.1	-499.2
2. % of Total Costs (%)	(11.6%)		(35%)	(14.6%)	(15.6%)	(19.6%)
3. Deficit per student $	($100)	($108)	($493)	($116)	($146)	($193)
4. Deficit: high cost increases (see Appendix II)	-202.3	-132.4	-42.6	-377.3	-527.7	-714.0
5. % of Total Costs (%)	(15.1%)	(14.1%)	(37.3%)	(15.8%)	(20.4%)	(25.8%)
6. Deficit per student	($136)	($137)	($532)	($149)	($204)	($276)
II. AREAS OF UNCERTAINTY: Changes in Low Cost Increase Deficit (line 1) Due to: [(+) = smaller deficit (-) = bigger deficit]						
1. Higher contracts (Wilcox +15, Stevenson +27, Terrace +10)	---	+16.9	+3.4	+20.3	+19.1	+17.6
2. Very good management	+12.1	+9.0	+2.7	+23.8	+24.6	+25.9
3. Bad results based on FY 70 experience	-53.5	-42.1	-15.8	-111.4	-175.5	-243.6
III. PRICE INCREASES						
1. Eliminate Deficit in 1 yr. and keep it at 0 -- per student price increases ($) (% Increase)	+$100 (+13.4%)	+$108 (+14.0%)	+$493 (+62.0%)	+$116 (+15.4%)	+$33 (+4.4%)	+$46 (+6.2%)
2. Eliminate Deficit in 3 yrs. -- annual increases per student ($)	+$60	+$64	+$192	+$64	+$64	+$64
IV. STRUCTURAL CHANGES IN THE DINING SYSTEM: with no price increases						
BY CLOSING FACILITIES:						
1. Close Madison	+12.7 [1]	-1.5	---	+11.2	+12.5	+14.1
2. Close Terrace	+ 7.9	+8.0	+10.6 [2]	+26.5	+29.2	+32.0
BY CHANGING TYPES OF CONTRACT:						
1. Contract to exclude Thanksgiving, vacations, & freshman week	+31.2	+ 9.4	+1.0	+41.5	+42.4	+44.3
2. All 20-meal contracts	+ 2.1	+11.1	---	+13.2	+11.9	+ 9.6
3. All 7-meal contracts	+62.7	+18.0	---	+80.7	+136.5 [3]	+167.6 [3]

[1] Excludes $7,000 in indirect costs.

[2] Excludes $28,900 in indirect costs.

[3] Does not include pay-as-you-go losses.

Budgeting in Specific Areas: Planning, Plant, and Properties

The substantive policy issues encountered in developing a provisional plan through FY 74 for Planning, Plant, and Properties are discussed at length in the 1971-72 Report of the Priorities Committee (pp. 248-253). Here we are concerned primarily with the formulation of the recommendations described in the Report -- what objectives we were seeking to attain and what procedures were employed. It is hoped that the discussion of this area -- the last specific budget area to be dealt with in this section -- will illustrate the general approach used in considering all supporting services.

In the light of the overall financial situation described earlier, our main goal for Planning, Plant, and Properties was, of course, simply to achieve substantial savings in operations, and to begin achieving them as soon as possible. However, we also adopted at the outset an important qualification to this objective: that the savings must not be achieved by deferring essential maintenance, lest the physical plant deteriorate and require expenditure of much larger sums later on. It seemed to us that this would be the worst sort of false economy. Of necessity, then, the savings would need to be made by curtailing the various sorts of services provided by this farflung department.

It soon became clear as well that there were two kinds of distinctions which needed to be made in analyzing this set of problems:

First, some issues could be decided quickly and others could not be resolved sensibly in the time available for preparation of the FY 72 budget and the first version of a longer-range provisional plan. Questions which could not be resolved in the near term were set aside for further study, but with explicit timetables so that they would not remain indefinitely in limbo.

Second, we needed to distinguish between costs which were subject to a good deal of control and those which were relatively "uncontrollable," especially in the short run. Examples of the latter are taxes and insurance premiums.

With these distinctions in mind, the process of analysis began. While the Director of the Budget, in consultation with a subcommittee of the Priorities Committee, established general guidelines for the analysis (as explained below), it should be emphasized that most of the real work of analysis -- identifying sources of savings, costing them out, and describing the impact on services -- was done by the General Manager of Planning, Plant, and Properties and his staff. Without his understanding of the general objectives of the whole process of budget review, and his active cooperation in the always painful process of proposing reductions in his budget, it would have been impossible to make anything like as much progress as was made in understanding the choices open to us in this area.

With the two distinctions noted above in mind, the General Manager and his associates began exploring the implications -- for the programs and levels of service provided by the department -- of four alternative budget levels proposed for consideration by the Director of the Budget (none of which took salary increases into account, since this subject was being treated separately in the budget review): (1) one which held controllable costs constant through FY 74, but allowed uncontrollable costs to rise as expected; (2) another which held total dollars constant through FY 74, thus requiring "absorption" of uncontrollable cost increases through cuts in levels of services; (3) one which allowed predicted attrition of personnel to reduce the ranks over time (but with no layoffs) by simply not filling vacancies as they occurred; and finally (4) a budget level even lower than any of these. Very early in the process, the subcommittee concentrated its attention on numbers (1) and (4) above, and finally recommended number (4) -- the most restrictive of all -- to the full Priorities Committee at its November 17, 1970, meeting.

As set forth in a memorandum to the Committee, the recommended budget level would require:

1. A more than 25% reduction in the janitorial and grounds force over three years (through attrition).

2. A 15% reduction in professional staff.
3. A near moratorium on improvements to existing building space.
4. Elimination of a bus service being provided by the University.
5. Other economies such as a 15% reduction in the level of interior painting.

The Priorities Committee discussed these proposals of the General Manager at some length with him and with the subcommittee that had been following this area all along. Members felt that even more information was needed. For example, in view of the overall budgetary situation, it seemed important to know what would happen if another $100,000-$200,000 was cut from the request for FY 72. Would it be possible to provide a curtailed bus service to serve the needs of students who have classes or research projects at the Forrestal campus (several miles from the main campus), rather than eliminate the service entirely, and still achieve some of the projected savings? The subcommittee and the General Manager went back to work on these and other questions raised at the first meeting of the full Committee devoted to this subject.

On December 7, 1970, the subcommittee transmitted another report to the full Committee, answering the questions posed at the earlier meeting, including those mentioned above. Additional possible economies totaling more than $200,000 had been identified, but the subcommittee did not recommend them because the impact on services provided and on the personnel providing them would have been quite severe. The subcommittee also recommended a curtailed bus service which would achieve most of the savings anticipated in the earlier memorandum and yet serve the minimal needs of the students.

The subcommittee's revised recommendations -- which called for a reduction of $236,000 from the FY 71 base for FY 72 and savings of nearly $500,000 by FY 74 (see Figure 4 on p. 251 of the 1971-72 Report of the Priorities Committee) -- met with the approval of the full Committee and were incorporated in the final set of recommendations to the President.

This experience in working on the FY 72 budget for Planning, Plant, and Properties contrasted sharply with our experience the previous year when we had not succeeded in making reductions nearly so substantial. The major difference was the far more active involvement of the head of the department from the beginning of work on the FY 72 budget. There is a real limit to what can be accomplished centrally. A second important difference -- which in turn had much to do with the closer cooperation between the department and the central budget officers -- was the explicit recognition by this year's Priorities Committee that reducing expenditures for Planning, Plant, and Properties would mean lower levels of services (e.g., offices and laboratories cleaned less often) and that the onus for these changes should not rest with the Department of Planning, Plant, and Properties. Accordingly, the Priorities Committee took pains in its Report to call attention to the reductions in services that would have to be accepted, to make clear that the members of the Committee were recommending these reductions, and to ask for the understanding of all faculty, staff, and students affected by them.

End of the Fall Budget Cycle and Consideration of Further Reductions in the Budget Base: The Cases of Slavic Languages and Literatures and Athletics

As we have tried to explain, all of our discussions of what should happen in 1971-72 were couched in terms of projections extending through 1973-74. Of course much of our effort during the fall budget season was of necessity directed to a detailed analysis of the implications of various budget proposals for the coming year. Nevertheless, an important objective of the fall budget work was the establishment of a multi-year program base.

In establishing this base, we did not simply extrapolate into the future our budget recommendations for FY 72. As discussed above, in the areas of student aid and operation of the physical plant, our recommendations were made in the context of three-year plans. In the case of the operation of the physical plant, these plans involved large phased reductions from the current level of effort. In areas for which we did not have detailed plans to consider, we projected expenses at rates of growth well below past rates of growth. The net result was the establishment of a multi-year program base that included a significant reduction from the current year's base. We regard the fall budget cycle (and the establishment of the multi-year base) as having ended on January 20, 1971, when we released The Report of the Priorities Committee to the President: Recommendations Concerning the Budget for Fiscal Year 1971-72 (Section II of this document). The expenditure and income items of the provisional plan discussed in that report constituted the multi-year program. The provisional plan also contained an estimate of the further reductions that would need to be made to this program base to bring the overall budget back into approximate balance by FY 74.

From January 20 forward, our attention shifted to specific ways of achieving the further reductions in the program base contained in the provisional plan. In writing the 1971-72 Report of the Priorities Committee, we had tried to prepare the way for this phase of our work by

(1) stating clearly our belief that further economies had to be sought through selective curtailment of specific programs or activities rather than through across-the-board reductions (see p. 186); (2) establishing a dollar objective for further net reductions in the program base of the budget -- approximately half a million dollars by 1973-74 (see pp. 180-181); and (3) listing the criteria we proposed to follow in evaluating particular programs (see pp. 187-188).

Actually, we had in fact gone farther than this prior to the release of our report in January, though not far enough to say anything publicly. At meetings of the Priorities Committee in December and early January, we had discussed in some detail not just the general principles to be followed in achieving further savings, but specific programs which we believed had to be reviewed in this context. The selection of programs for review was, of course, a sensitive matter in and of itself. We started out by listing about ten academic and non-academic programs which one or more members of the Committee felt should be examined based on general impressions about overall quality and costliness. The Provost took the lead in identifying programs for study, in large part because he was in a position to know more about most programs than other members, but other members also made suggestions. All members of the Committee recognized that, while confidentiality was important in all of the work of the Priorities Committee, it was absolutely essential here. A great deal of harm could have been done if participants in various programs had been frightened needlessly by reports concerning the future of their programs which were circulated well before the Committee itself had made even tentative judgments concerning areas to be examined in detail. We were fairly successful in avoiding this kind of premature discussion, but we found no way to prevent some rumors from circulating.

Following preliminary discussions within the Committee, tentative decisions were reached as to which programs should be reviewed more fully, and in which order. These procedural decisions of course reflected tentative judgments concerning the applicability of the criteria listed in our report (and reproduced below). It must be emphasized, however, that they also reflected a number of practical considerations having to do with timing. To illustrate, our decision to move ahead as promptly as possible with a full review of Slavic Languages and Literatures was based in part on the fact that significant personnel changes were about to occur in that department and that important decisions concerning the future simply had to be made soon. On the other hand, we decided that the time was not right for a full-scale review of any part of the School of Engineering because the current Dean was retiring and his successor had not yet been named.

After the selection of programs to review initially, officers of the University with direct responsibility for the respective programs (mainly the Dean of the Faculty, the Dean of the Graduate School, the Dean of the College, and the Executive Director of Administrative and Personnel Services) were then asked to prepare detailed materials for the consideration of the Committee. From this point on, the process of decision-making became quite complex and can be described best in terms of the two specific programs which occupied most of our time during the spring term: (1) the graduate program in Slavic Languages and Literatures; and (2) Athletics.

The Graduate Program in Slavic Languages and Literatures. -- The basic document considered by the Committee in reviewing the graduate program in Slavic Languages and Literatures was a memorandum prepared by the Dean of the Graduate School. This memorandum is not reproduced here because it contained, in the nature of the case, a number of personal references. Suffice it to say that the Dean's memorandum evaluated the graduate program in Slavic Languages and Literatures in terms of each of the eight criteria developed earlier by the Committee. These criteria played such an important role in our discussions that they bear repeating:

1. The quality of the faculty and of the program of graduate instruction, as they can be inferred from the opinion of other scholars in the field, the views of faculty members in related disciplines at Princeton, and any available

evidence based on the opinions and experiences of graduate students.

2. The number and quality of students who have applied for graduate study at Princeton in the field, who have accepted admission, and who have completed the program.

3. The future of the whole field of study in terms of scientific and scholarly trends and in terms of national needs.

4. The national contribution of the Princeton graduate program, viewed in the context of the number of other strong programs, whether or not they are operating below their desirable size, and, in general, whether suspension of a program at Princeton would have a seriously adverse effect on opportunities for graduate study.

5. The comparative advantage of Princeton in the field -- that is, the ability of Princeton to make a particular contribution to the field in question because of special factors such as a long tradition of good work in the subject, unusually strong library resources, and so on.

6. The interactions between graduate study in the field in question and graduate work and scholarship in other fields at Princeton, and the likely effects of suspending work in the field on other programs and faculty members.

7. The interaction between graduate study in the field and the quality and variety of undergraduate offerings in the same field.

8. The costliness of work in the field, measured in terms of instructional costs, student support, library costs, space costs, and so on.

In attempting to assess the quality of the program (criterion 1), the Dean made use of a variety of sources. The American Council on Education report, "A Rating of Graduate Programs," was a useful starting point. While all surveys of this kind suffer from well-known limitations and must be used along with other evaluations, we regard the most recent ACE survey as a very well done summary of the opinions of scholars in their own fields and, as such, an important source of information. We would not -- and did not -- attach great weight to the particular numerical ranking of departments, but we did attach considerable importance to the groupings of departments and to general measures of performance (e. g., the percentage of raters who regarded the graduate faculty as "distinguished and strong" at institutions on the margin between groups).

It should be noted that the Princeton program in Slavic was not badly rated in any absolute sense. In terms of "effectiveness of doctoral program," Princeton was one of six universities rated in the third group in Russian, with only seven universities rated above this third group. Nevertheless, in seeking to reduce the budget base, we had no choice but to consider the relative performance of various programs at Princeton as well as absolute measures; and, among the twenty-six Princeton departments and programs rated, we could not overlook the fact that Russian was one of only three rated in the third group in terms of effectiveness. Finally, it should be stressed that in addition to considering the ACE ratings, the Dean talked directly with many faculty at Princeton and with individuals at other institutions. He certainly did not rely solely on the numerical ratings.

Data on numbers and quality of graduate students (criterion 2) were obtained directly from records (and individual folders) in the Office of the Dean of the Graduate School.

Considerable time was spent by the Dean in investigating the likely effect of suspending the Princeton graduate program in Slavic Languages and Literatures on the field at large (criteria 3 and 4). In particular, he attempted to determine whether there were empty places for students elsewhere. His conclusion was that three of the four leading Slavic departments were undersubscribed and that therefore we would not be depriving good students of opportunities for graduate study if we were to suspend our program. On the contrary, the Dean concluded that a somewhat greater concentration of graduate students at those institutions with the very best programs in Slavic Languages and Literatures would be desirable from a national standpoint.

In the case of Slavic, the relatively recent strengthening of the Library and the existence of considerable faculty strength in related fields meant that Princeton had particular reasons for staying with this subject (criterion 5); however, as comparisons were made with other programs, it seemed hard to argue that Princeton possessed as strong a comparative advantage in this field as in, say, Near Eastern or East Asian Studies, where special libraries exist.

From the outset one of our major concerns was the likely effect of suspending graduate work in Slavic Languages and Literatures on other departments and programs within the University (criterion 6). These intramural effects were examined by the Dean in a lengthy series of conversations with the Chairman of the Council on International and Regional Studies, the Director of the Program in Russian Studies, the Chairman of the Program in Linguistics, and a number of other faculty members. On careful examination it appeared as if the direct effects of suspension would be slight, especially in view of the relatively small number of students in these other programs who had been electing courses in the language and literature area. However, concern was expressed about the less tangible effects on morale and esprit.

The Dean of the College took the major responsibility for assessing the likely effect of suspending the graduate program in Slavic on the undergraduate program (criterion 7), and his memorandum on this aspect of the matter also benefited from conversations with colleagues in other institutions, some of whom had only undergraduate programs. Since it was the view of all of us that the maintenance of a strong undergraduate program was very important to a wide range of students and faculty in a variety of related fields, the possible consequences for the undergraduate program were weighed carefully. The Dean of the College concluded that a good undergraduate program could be maintained if special efforts were made and if the necessary faculty cooperation was forthcoming.

The magnitude of savings associated with the possible suspension of graduate work in Slavic Languages and Literatures (criterion 8) was estimated by the Associate Provost and amounted to $100,000 - $150,000 by FY 74. This estimate was based on the assumption that any suspension would take place on a phased basis, with the University admitting no new graduate students but meeting commitments to current students, and with reductions in faculty occurring only through retirements, resignations, and non-reappointments. Since the components of this estimate may be of some general interest, they are shown below in tabular form. (The numbers given are not from the original estimate but reflect the final results of detailed planning by the departments concerned after the decision to suspend the program.)

Table 24

Slavic Savings

($ Thousands)

	FY 72	FY 73	FY 74	FY 75
Faculty Salaries and Benefits (FY 71 level)	16.2	48.2	48.2	48.2
Graduate Students				
Assistants in Instruction	0	0	0	7.4
Fellowships	3.7	2.8	18.9	43.8
Tuition Lost	-0	-3.1	-17.0	-43.8
Graduate Student Net	3.7	-0.3	1.9	7.4
Library	28.6	35.5	48.5	49.9
Reduction in Salary and Benefit Increases (above FY 71 level)	1.3	7.0	13.2	18.3
TOTAL	49.8	90.4	111.8	123.8

The savings shown at the bottom of the table are net figures and include estimates of tuition income lost as well as (largely offsetting) savings in fellowships. Particularly noteworthy is the fact that almost half of total savings estimated are in the Library. As one part of the development of program budgeting tools (see Section IV of this report), we had prepared data for the Library which permitted us to divide the various classes of expenditure by field. The Librarian was then able to estimate what part of total expenditures on the field could be saved if the graduate program were suspended. In fact, the actual process followed was considerably more complicated than this in that the Librarian was asked to prepare several alternative sets of estimates of Library savings and to describe the consequences of each. It was on the basis of this analysis, and after considerable consultation with faculty members dependent on the quality of our collections in this field, that we chose the particular target numbers for the Library shown on the table.

One final comment on costs: the data on dollar savings described above were supplemented by detailed figures on cost per student derived from faculty manning Forms 6 and 7 (described above). Plainly, the graduate program in Slavic Languages and Literatures was a very expensive undertaking by any reckoning. At the same time, it was important to recognize that certain fields like this one are inherently more expensive than others, and that if all universities were to pursue budgetary goals by curtailing programs with high unit costs, the general cause of higher education would be poorly served. Perhaps it should be noted that there are a number of other graduate programs at Princeton which are considerably more expensive than Slavic -- for example, Classical Archaeology -- and we did not, in fact, look first at cost per student in attempting to decide where to make savings. Cost was listed as the eighth criterion quite deliberately: we felt it important for it to be generally understood that we explicitly considered each of the seven criteria concerned with educational quality and educational effects as well as the cost factor.

To return now to the discussion of procedures, it should be recognized that the Dean of the Graduate School could never have prepared as comprehensive an analysis as he did without the active participation of many persons, including the Chairman of the Department of Slavic Languages and Literatures. As soon as the decision was made to look at Slavic in detail, the Chairman of the Department was informed by the Provost and the Dean of the Faculty, and his cooperation was requested. Needless to say, this was a most difficult and distasteful situation for the Chairman, and we were exceedingly fortunate to have in that position an individual who was willing to be as objective as possible in discussing his own department and who was able to see the reasons why the University was proceeding as it was.

The Priorities Committee had three long meetings devoted almost entirely to Slavic Languages and Literatures. These meetings were attended by the President and included presentations by the Deans. The Chairman of the Department of Slavic Languages and Literatures submitted a memorandum to the Committee, and memoranda from other persons were also made available to the Committee. After lengthy consideration, the Committee concluded unanimously that it should recommend to the President that the graduate program in Slavic Languages and Literatures be suspended. This recommendation was made with great regret, but with the conviction that under present and foreseeable circumstances it is better for the University to do a smaller number of things, and to continue to do them well, than to accept a general deterioration in the quality of the educational program.

After he received the recommendation from the Priorities Committee, the President met with the Chairman of the Department to hear his views directly and in person. The President then convened a special meeting of the Faculty Advisory Committee on Policy (a group elected by the faculty at large) to review the matter and obtain the advice of this body. Finally, the President presented a formal recommendation to a subcommittee of the Curriculum Committee of the Board of Trustees that the graduate program in Slavic Languages and Literatures be suspended. The President's recommendation was accepted and the necessary steps were taken to inform faculty members and students.

After the decision was final, the Dean of the Faculty, the Dean of the Graduate School, and the Librarian were asked to prepare detailed plans for implementation. The Associate Provost designed a set of tables for each to fill out. The tables were to display the phased changes in resource use resulting from suspending the program. For faculty, the tables showed both the changes in FTE faculty and the changes in the teaching budget. For graduate students, the tables showed the changes in the number of graduate students, changes in dollars for fellowships and Assistants in Instruction, and tuitions lost. For the Library, the tables showed the changes in acquisitions, salaries, and other operating expenses.

The filling in of the tables was meant to serve two purposes. The first was to provide a framework for the departments concerned to plan in detail how they would implement the decision and to provide detailed estimates of the anticipated savings. (The final estimates obtained in this way are shown in Table 24.) The second purpose was to record the decisions in such a way that the actual changes could be monitored over time as they took place. In order for monitoring to be possible, there has to be a base from which the changes can be measured. We had established this base in the fall budget process, and we included on the tables the base from which the program changes would be subtracted. The establishment of a base from which changes can be monitored is a point often overlooked in planning. However, it is only by explicitly establishing a base that we can tell whether what we plan to happen really happens.

Table 25 illustrates this part of the process by showing the Library program change associated with the Slavic decision. The Librarian used as his base the FY 71 levels of expenses and presented changes from this level in terms of FY 71 salaries and prices. Starting with this information, we modified the Priorities Committee provisional plan for the Library. The provisional plan included no increase in Library expenses in FY 72, and a 3% increase for both FY 73 and FY 74. We obtained the adjusted provisional plan shown on the table by subtracting from the original plan the Librarian's proposed reduction for FY 72 occasioned by the Slavic decision, the reduction for FY 73 increased by 1.03 and the reduction for FY 74 increased by $(1.03)^2$.

The Library staff found it most convenient to work in terms of the current year levels of expenditures. We were then able to convert the changes from the current year's base in terms of current year salaries and prices into changes to the actual program base to obtain a new program base. In this case we assumed that Slavic would have received a proportional share of the increases in the Library budget contained in the provisional plan. Thus we increased the reductions in FY 73 and FY 74 by the appropriate factors for total Library in the provisional plan. In addition we assumed that the salaries and benefits deleted at FY 71 levels would have been increased by the overall factor for salary and benefit increases in the provisional plan. Thus we increased these reductions by the overall salary increase factor for FY 72, FY 73, and FY 74. The resulting reduction in salary increases for the Library is part of the last item (Reduction in Salary and Benefit Increases) in Table 24.

As is evident from this account, a great deal of time was devoted to consideration of the graduate program in Slavic Languages and Literatures. A number of different groups were consulted and a great many memoranda were exchanged. Indeed, the actual process was more involved than the above description implies because we telescoped greatly the discussion of the way in which the Library aspect of the matter was handled. (A final decision on the dollar magnitude of the reduction in Library expenditures was not made until the end of May 1971, following many consultations.) It is hard to be sure, even in retrospect, whether the procedure needed to be so involved. However, we are still inclined to think that all of the work was necessary. We believe that it was important to be extremely thorough, in part because the program under consideration was an important one, in part because this was the first

Table 25

Library Program Change

Expenses

($ Thousands)

	FY 70	FY 71	FY 72	FY 73	FY 74
	Actual	Est.	Proj.	Proj.	Proj.
Library FY 71 Base					
Acquisitions	1,174	1,284	1,284	1,284	1,284
Salaries and Benefits	1,862	2,190	2,190	2,190	2,190
Other Operating Expenses	182	185	185	185	185
Total Base	3,218	3,659	3,659	3,659	3,659
Slavic Program Change (FY 71 levels) Alternative 1A					
Acquisitions					
Program Base	56	57	57	57	57
Reduction	xx	xx	20	20	20
Adjusted Program Base	xx	xx	37	37	37
Salaries and Benefits					
Program Base	76	86	86	86	86
Reduction	xx	xx	7.6	12.5	23.7
Adjusted Program Base	xx	xx	78.4	73.5	62.3
Other Operating Expenses					
Program Base	7	5	5	5	5
Reduction	xx	xx	1	2	2
Adjusted Program Base	xx	xx	4	3	3
Total Slavic Program Base	139	148	148	148	148
Total Reduction	xx	xx	28.6	34.5	45.7
Total Adjusted Program Base	xx	xx	119.4	113.5	102.3
Adjusted Library Base					
Acquisitions	xx	xx	1,264	1,264	1,264
Salaries and Benefits	xx	xx	2,182	2,177	2,166
Other Operating Expenses	xx	xx	184	183	183
Total Adjusted Program Base	xx	xx	3,630	3,624	3,613
Priorities Committee Provisional Plan for Library - 1/20/71	3,218	3,659	3,659	3,769	3,882
Adjusted Priorities Committee Provisional Plan for Library	3,218	3,659	3,630	3,733	3,833

decision of its kind to be made in recent years,[1] and in part because we knew that the decision could affect significantly the future of a number of individuals who had contributed much to the University over a long period.

Athletics. -- A second program area which received a great deal of attention during the spring of 1971 was Athletics. It differed from Slavic Languages and Literatures in that the Committee had already recommended a reduction in its program base in its January report ($68,000 in FY 71 costs). The Committee's general views concerning Athletics -- and the special problems involved which result from regulations imposed by regulatory bodies, the intense nature of intercollegiate competition, and the likely effects of various decisions on alumni support -- are discussed in the 1971-72 Report of the Priorities Committee (pp. 216-219) and need not be repeated here. It should be noted, however, that in that report the Committee signaled clearly its intention of achieving reductions in the program base beyond those detailed in recommendations for FY 72: "...we believe that some part of the further reduction in the program base required by our provisional plan must, in all likelihood, come from Athletics" (p. 217).

In recommending the initial reductions in the program base of Athletics we had proposed:

1. A reduction of pre-game training meal budgets.
2. Elimination of travel support for cheerleaders and the band for out-of-town football games.
3. Elimination of general funds support for team banquets.
4. Reduction of general security at games.

---

[1] A decision had been made, three years earlier, to drop a program in Korean studies, but this had been a much smaller program with far looser connections to the rest of the University.

5. Elimination of selected intercollegiate contests, including a number involving extensive travel.
6. Elimination of freshman teams in certain sports in which freshmen could be eligible for varsity competition.

In attempting to find ways to achieve further savings without sacrificing the important contributions made by Athletics to the life of the University, the Committee relied heavily on a study carried out over several months by a subcommittee which was chaired by the Executive Director of Administrative and Personnel Services and which consulted extensively with coaches, team captains, and alumni representatives. As in the case of Slavic Languages and Literatures, a lengthy report was prepared for consideration by the full Committee. This document discussed the pros and cons of "vertical cuts" (eliminating whole sports at all levels of competition) versus "horizontal cuts" (reducing the number of teams or the level of expenditures in many sports) and included a table summarizing for each sport: (1) the number of varsity, junior varsity, and freshman contests; (2) the direct expenses included in the FY 71 budget; (3) income from ticket sales, etc., projected for FY 71; (4) the net cost of each sport; (5) the number of student participants; (6) the number of student award winners; and (7) the costs -- gross and net -- per participant and per award winner in each sport. Finally, the table included a rating by the subcommittee (A to C) of the value of each sport taking into account the above data plus estimates of the carry-over value of each sport, the historical importance of the sport at Princeton, likely effects of suspending the sport on admissions and alumni relations, and so on. The compilation of these data proved extremely useful to the Committee and, taken in conjunction with the results of the discussions with coaches, players, and supporters of the various sports, had a great effect on the thinking of many members.

In fact, the Committee moved away from its first inclination, which had been to consider seriously the abolition of a whole sport. We moved away from this position in large part because the data showed that the net savings to be realized (excluding overhead costs) in those sports which were at all possible from this standpoint were really rather modest (a maximum of about $40,000 per year), when compared with the importance many students and others attached to each of these sports. Particularly persuasive were the arguments of the student participants (including the football players, whose sport does not entail any net costs, measured incrementally): viz., that they hoped the University would find ways to economize further in the operation of all sports before depriving students interested in any one sport of the opportunity to participate at all.

Accordingly, the Committee ended up recommending a variety of further reductions, totaling about $80,000 per year, which could be characterized as basically "horizontal:" (1) additional savings in equipment purchases, travel, etc.; (2) further cuts in training table expenses for football involving the elimination of all lunches; (3) decisions to reduce the coaching staff, mainly through attrition. These recommendations were adopted by the President (who participated actively in the discussions leading up to them) and transmitted by him to the Director of Athletics. Monitoring procedures were then established for Athletics similar to those described above for Slavic Languages and Literatures.

As this account is being written, a cooperative study of Ivy League Athletics is being carried out under the auspices of the presidents. This study could lead to discussions among the presidents which might both improve the overall climate of Ivy League athletics and reduce costs. That is certainly the hope of many of us. Whatever the result, the work we have done to date has convinced us that decisions affecting Athletics, no less than decisions affecting academic programs, can benefit greatly from careful analysis of costs and benefits to the institution. Indeed, it may be truer of Athletics than of most activities that initial impressions of costs and benefits can be quite misleading.

Other Areas. -- Having achieved further reductions in the program base by FY 74 of approximately $190,000 in Slavic and Athletics combined, our Committee continued to seek possible savings in other areas. In due course recommendations were made that resulted in the overall reduction of $500, 000 in the program base (beyond what was recommended for FY 72) contemplated by the provisional plan.

Participation in the Decision-Making Process: General Impressions of the Work of the Priorities Committee

Having described various aspects of our work in some detail, we shall now conclude this part of our report with some general observations on experience to date with the Priorities Committee, viewed from the standpoint of its role in the process of reaching and communicating decisions on resource allocation.

While those of us who have shared responsibility for the preparation of this report can hardly claim to be disinterested observers, we do believe that the Priorities Committee has been successful in two important respects:

-- First, the work of the Committee has helped us make better decisions than we would have made otherwise.

-- Second, the Committee has helped to increase understanding of the University's financial situation, and what we are trying to do about it, among students, faculty, administrators, alumni, and others.

The contributions of the Committee to the quality of the decisions reached have been many. The very presence of the Committee, with meetings and agendas scheduled on a regular basis, has served as a useful discipline for members of the administrative staff responsible for preparing budget materials of all kinds. Similarly, the knowledge that a variety of individuals with differing perspectives would be asking hard questions has improved the quality of budget submissions as well as the quality of the reviewing process. We are convinced that these "announcement effects" have been extremely important even though hard to define very precisely.

The more direct way in which the Committee has contributed to better decisions has been, of course, through the ideas and exchanges of viewpoints expressed in the meetings of the Committee. Thus, the detailed plan for meeting the crisis in the financing of graduate education which is summarized in the Committee's Report for 1972-73 evolved in the course of four long meetings in which various proposals were tried out, modified, presented again, and so on, but always in the context of the budget as a whole and the competing claims of many important activities. In any number of other instances particular perspectives of individual members of the Committee led to savings which we might not have identified in the absence of the Committee. To cite a mundane example, student members advised against spending money on a proposed smoke detection device because their detailed knowledge of living habits cast serious doubt on its likely effectiveness.

The role of the Committee in promoting a broader and deeper understanding of the University's financial circumstances also needs to be viewed along several dimensions. The reports of the Committee to the President have been written with the objective of informing as many people as possible of the nature and causes of the financial pressures affecting the University as well as of the specific steps being proposed to deal with the situation. Copies of the reports have been sent to all department heads, to members of key faculty, student, and staff committees, to all members of the Board of Trustees, and to individuals who expressed interest. In addition, copies were available for general perusal in department offices and the Library. Some 1,800 copies of the Report for 1971-72 were sent to other colleges and universities at the request of the American Council on Education.

The reports were also used as the basis for lengthy articles published in the Daily Princetonian and the Princeton Alumni Weekly and for special mailings to alumni. These summaries proved very useful because we could not expect very many people to read the reports in their entirety, given their length (133 pp. in 1971-72 and 70 pp. in 1972-73). At the same time, we thought it was necessary to make available to those who were interested a full account of our recommendations and the thinking that lay behind them. In this way we have sought to raise the general level of discussion of priorities and to dispel misconceptions.

Thus, the reports themselves and the articles based on them have served as the primary basis of communication between the Committee and other groups. We have tried to supplement these written accounts of our work by arranging various meetings at which the Chairman and other members of the Committee were available to answer questions and to participate in discussion of the central propositions. Meetings of this kind have been held with departmental chairmen, the Council of the Princeton University Community (a body representing students, faculty, staff, and alumni), and Trustees. These meetings have been rather uneven in their overall quality, with some extremely good sessions and some of a much more perfunctory nature. The very complexity of the subject, combined with the length of the reports, has served to intimidate some people, and we have found no really satisfactory solution to this problem.

The final mode of communication to be mentioned is the least formal of all -- conversations among individual members of the Committee and students, faculty, administrators, and others. While time-consuming, and inevitably limited in terms of the number of individuals who could be involved, this kind of opportunity for discussion has been important in providing both information and a genuine sense of "contact" for many individuals. The burden on members of the Committee has been considerable -- especially when they have had to defend unpopular decisions before colleagues and friends -- but the benefits to the University from conversations of this sort have been substantial.

It would be an error, however, to give the impression that these various efforts at communication have produced anything approaching full understanding of the University's fiscal problems and programs even within the resident University community. All of the efforts mentioned above notwithstanding, there are relatively few individuals on the Princeton campus with a good understanding of these matters. Most people are preoccupied with other things -- as they should be! Moreover, there is a natural reluctance to invest time in studying a subject that is both complex and somewhat depressing. Finally, it is important to recognize the degree of "turnover" that occurs within any university community. Junior faculty members, as well as students, replace one another with some frequency. Accordingly, a great deal of patience and a willingness to repeat materials are necessary.

It should be noted that the individuals who have studied the reports of the Priorities Committee in the greatest detail have tended to be the same individuals who are most interested in all aspects of University life and most influential -- department chairmen, student government officers, Trustees, and so on. These individuals have in turn helped a great many other people who have come to them with questions. Also, they have been able to refer individuals with questions to the reports of the Priorities Committee. Thus, these reports have served as reference documents in an important way. That is, when an individual concerned with a particular problem such as student aid has come to another student or to an administrative officer or faculty member with a question, more often than not he has been referred to the Report of the Priorities Committee for both a discussion of student aid policies and a discussion of the context in which they were developed. Further discussions have then ensued. In this important sense, the reports of the Priorities Committee have served as a beginning, not as an end, to the process of seeking understanding and support for decisions affecting resource allocation.

If our experience to date with the Priorities Committee has been a generally positive one, as we believe it has been, what factors have been responsible?

First, the composition of the Committee, in terms of the kinds of people represented on it, has been very important. It is a very inclusive group, including as it does undergraduates, graduate students, faculty members from each of the four academic divisions of the University (and at least one non-tenured faculty member), academic and financial officers of the University, and at least one person from some other administrative office. The resulting breadth of perspective has been important both in terms of the ideas that have resulted from it and in terms of the barrier it has posed for representatives of any one group who might have wanted to argue a parochial interest too strongly. It has been enlightening for the student and faculty members of the Committee to be exposed to so many facets of the University and to be made aware of so many conflicting needs for funds. And the administrative officers have benefited from the opportunity to hear student and faculty concerns at first hand.

The presence on the Committee of the Provost, as Chairman *ex officio*, the Financial Vice-President and Treasurer, and the Dean of the Faculty -- as well as the President when his schedule permits -- has given the Committee an important sense of responsibility. All of the members have come to believe -- and rightly -- that what they say and what they recommend will be taken seriously. Also, the active participation in the work of the Committee of individuals with direct operating responsibility in various areas (e.g., the Dean of the Faculty and the Executive Director of Administrative and Personnel Services, who normally meets with the Committee although he is not a member) has meant that specific questions have a reasonable chance of being answered promptly and fully. Casual discussions of budget problems often suffer from lack of real information and from many false rumors and assumptions. Our Committee has had within it and available to it sufficient knowledge to permit discussions of the *real* questions and to prevent the group from spending a great deal of time going down blind alleys.

A second factor which has been as important as the formal composition of the Committee has been its composition in terms of the kinds of individuals who have served on it and their method of selection. Thus far we have attracted to serve on the Committee faculty members and students of very considerable ability and of broad outlook. This result is attributable in part simply to good luck. The high quality of the group can also be attributed, however, to the method whereby its members (other than the *ex officio* members) are chosen.

The faculty members and the students who serve on the Priorities Committee are not elected in any direct way. Rather, they are nominated by the Executive Committee of the Council of the Princeton University Community. The Executive Committee itself is elected, with the faculty members chosen by the faculty at large and the undergraduate and graduate members chosen by their respective constituencies. In selecting individuals to serve on the Priorities Committee, however, we deliberately avoided an arrangement whereby they would be elected. To have elected the student and faculty members directly would have been to give them more of a sense of constituency-orientation than we thought would be desirable. That is, everyone serving on the Committee has been meant to worry about the best interests of the University as a whole, not just the best interests of the particular group from which the individual comes. Having the members nominated by the Executive Committee, rather than elected directly, has helped convey this sense of mission and this intent.

In nominating individuals to serve on the Priorities Committee, an attempt has been made to find a set of members who will complement each other, and in this respect too the process of nomination has seemed superior to a process of direct election. In the nominating process, students on the Executive Committee have not hesitated to comment concerning the qualifications, or the lack of qualifications, of a faculty member being proposed for membership on the Priorities Committee; similarly, members of the faculty and of the administration have participated in the choice of students to serve. Thus, in fact as well as in appearance, all of the members of the Priorities Committee have enjoyed a certain degree of University-wide support and have not been simply creatures of particular constituencies.

A third factor that has had considerable effect on the success of the Priorities Committee has been the general character and tone of the meetings and the extremely good personal relationships that have existed among the members. Faced with very difficult problems, and the certain knowledge that whatever was recommended would be unpopular on many fronts, the members of the Committee developed from the beginning a strong sense of camaraderie. As one member put it, we have been a very "task oriented" group, and this has produced a certain sense of common purpose. Also, the many hours spent together have served to reinforce this feeling of group loyalty. Of course, the spirit of any group such as this is a fragile thing, and it can change almost overnight. It is the individuals on the Committee who determine it, and there is little that can be done organizationally to compensate for members who are unable or unwilling to contribute to this kind of feeling.

So far, at any rate, we have been lucky in that the individuals on the Committee have respected each other's views, have tried to learn from each other, and have avoided trying to make "points" at each other's expense. Also, all members of the Committee have taken seriously the injunction to respect the right of other members to speak freely within the Committee without fear of being quoted outside it. In this respect the confidential nature of the meetings of the Committee has been very important in permitting candid discussions and in building good personal relationships. Also, the fact that the Committee was set up with members chosen to serve staggered terms has been useful in that it has provided continuity. The continuity has, in turn, been helpful in carrying this general set of attitudes forward from one year to the next.

A fourth factor to be noted as contributing importantly to the work of the Committee has been the quality of the underlying analysis. A group as diverse as the members of the Priorities Committee can address important questions of policy effectively only if the underlying data and analysis are at hand and in good form. At the same time that the Priorities Committee was established, the other work on resource allocation described at various places in this document was begun. The two efforts have gone forward together, and it is fair to say that the Priorities Committee could not have met in the absence of the other work relating to budget submissions, the collating of budget requests early in the year, the derivation of planning figures for student aid, and so on. In the absence of a Priorities Committee, a fair amount of information of this sort may exist in the minds of various officers of the University charged with making allocation decisions, but it may not be committed to paper. The presence of a Priorities Committee does require more thorough staff work than might be needed in its absence.

A fifth and last factor to be noted concerns not the Committee itself but the nature of Princeton as a university community. Princeton is a small university and there is a good deal of agreement -- though certainly not unanimity -- on basic goals. The undergraduate members of the Committee recognize the importance of the Graduate School and the importance of the scholarly efforts of the faculty; the graduate students and the faculty, in turn, recognize that Princeton is built around a residential college and that student life concerns have long been very important. Also, the faculty and students, in general, recognize the important supporting relationship that must exist between the alumni body and a resident university community. In the absence of some fair degree of agreement on these points, it would be far more difficult, if not impossible, for a group such as the Priorities Committee to work together. In a larger and more complex institution, where, in the nature of the case, there might be less sense of common purpose, it would be far harder to develop the kinds of working relationships that have prevailed within this Committee.

It would be wrong to conclude this set of impressions of the work of the Priorities Committee without indicating some of the basic questions for the future that concern us and that should concern any other institution contemplating making use of a committee of this kind. Perhaps the first and most basic question is: will very good people be willing to give the necessary amount of time to an undertaking of this sort? It is one thing to secure the commitment of some of the most effective members of the faculty and student body when one is starting a venture of this kind, and when one is faced with immediate crises. It is another to secure the services -- and the commitment -- of individuals of the same quality over a longer period. What is possible in this regard remains to be seen.

A second important question for the future is: can a satisfactory balance be found between the need to avoid repetition of discussion from one year to the next and the need to give new people on the Committee a chance to participate and to feel that their views count? In preparing the report for 1972-73, the Priorities Committee took as "given" many of the judgments and much of the analysis done in preparing the longer report for 1971-72. If we had not started with the work for 1971-72, and regarded it as background, it would have been difficult to sustain the interest of those members who had participated in the work of the Committee the prior year. Their patience would have been strained sorely had we gone over all the same material again. At the same time, the new members felt, on at least some occasions, that they were having to take on faith things that they would have liked to have studied for themselves. While this potential conflict between old and new members can be met to some degree by informal "briefings" between members of the staff and new members of the Committee, the underlying problem is a real one, and it may well become more serious.

Our third and last question for the future is: can good relationships between the Priorities Committee and the larger University community be maintained as the Committee becomes more and more part of the established organizational structure of the University? The constant influx of new members is important in this context. We will need new ideas and new perspectives from the larger University community. At the same time, the new members, no less than the old members, will need to pay attention to the results of previous analysis and to honor prior commitments. Here again there is some inherent tension between the need for continuity and the need for new departures.

Over the long run, the answer to the question of the Committee's ability to relate effectively to the larger community will depend, no doubt, more on the quality of the work of the Committee than on anything else. At any rate this is our hope, since it surely is the proper test.

SECTION II

PRINCETON UNIVERSITY

REPORT OF THE PRIORITIES COMMITTEE TO THE PRESIDENT

Recommendations Concerning the Budget for Fiscal Year 1971-1972

January 20, 1971

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INTRODUCTION

At no time since the depression of the 1930's has the subject of university finance been as important as it is now. It is no exaggeration to say that the decisions made in response to the present financial situation will have a lasting effect on the nature of Princeton and, more broadly, on the role that universities of this kind can be expected to play within higher education. Nor is it just the decisions themselves that matter. The ways in which they are made and received will be no less significant. There is no substitute for the understanding and cooperation of all those who share a commitment to the University -- undergraduates, graduate students, faculty, research personnel, library staff, administrators, supporting staff, trustees, alumni, parents of students, and other friends.

If we are to expect cooperation and good will from all of these groups -- which, while sharing a common commitment to the University, often have particular interests which conflict -- we must provide information. We must explain frankly and fully the nature of the overall problem and what we believe can and should be done about it. Our hope is that this report will help to satisfy this obligation.

We think it will be helpful if we state now the two most important themes that we elaborate in the report. The first is that we are convinced that the University's financial problems are not temporary. They are made worse by a particularly unfortunate combination of circumstances in the current year, but they arise from more basic causes that will require difficult choices for several years to come.

Our second major theme is that in coping with these problems we are determined to maintain the quality of Princeton as a university committed to providing excellent undergraduate and graduate programs in carefully selected fields. This implies that it is better for the University to do fewer things, and continue to do them very well, than to accept a general decline in the overall quality of its educational program.

This is a long report, considerably longer than last year's, and a brief "reader's guide" may be useful.

First, in Section I, we describe the work of our Committee so far this year. We try to provide some sense of the procedures followed in arriving at the recommendations described in this report. Also, we discuss some questions of continuing importance concerning the relationships among the Priorities Committee, the President, other administrative officers, and the Board of Trustees.

Section II describes the overall financial situation of Princeton at the present time. Trends in expenditures and in income are discussed, our recommendations for Fiscal 1972 are summarized, and projections are presented through Fiscal 1974. In addition, some attempt is made to describe Princeton's own financial situation in the larger context of the financial problems facing all of higher education.

Section III contains a statement of the central principles the Priorities Committee has had in mind in developing recommendations concerning a host of particular programs, activities, and financial charges.

Section IV contains an extended discussion of the application of some of these general principles to a number of substantive issues and areas: (1) tuition policy; (2) dormitories and food service operations; (3) faculty and staff housing; (4) faculty manning; (5) special academic programs; (6) the library; (7) the computer center; (8) athletics; (9) student aid at the graduate level; (10) student aid at the undergraduate level; (11) academic administration; (12) general administration and other supporting services; (13) the operation and maintenance of the physical plant, and (14) salary policy.

Appended to the report are: (A) summary tables showing income and expenditures for FY 70 through FY 72; (B) a list of the principal assumptions underlying projections of income and expenditures for FY 73 and FY 74;

(C) a memorandum from the Provost to all heads of departments setting forth guidelines to be followed in preparing budget requests for 1971-72; and (D) a detailed report on the economics of dormitories and food services prepared by Miss Mary E. Procter and Mr. James P. Mnookin.

The organization of the report has posed difficult problems because everything depends on everything else. For example, a detailed understanding of the recommendations for FY 72 is very helpful in considering future plans while some appreciation of what is likely to happen in the future is also very helpful in considering recommendations for FY 72. For this reason, and because we have tried to make each major section more or less self-contained, some repetition has been unavoidable.

* * * * * * * *

In submitting this report to the President, the members of the Priorities Committee wish to thank the Deans and heads of offices whose cooperation in providing information, answering questions, and discussing sensitive issues candidly has been so important to our work. We have also benefited greatly from the contributions of those individuals who have met regularly with our Committee either at the suggestion of the Executive Committee of the Council or as stipulated in the Charter of the Council: Mr. Henry Bessire, Vice-President for Development; Dr. William Lewis, Associate Provost for Resource Planning; Mr. A. J. Maruca, Executive Director of Administrative and Personnel Services; and Mr. Carl Schafer, Director of the Budget. Dr. Lewis and Mr. Schafer assumed responsibility, respectively, for forward planning and for the work related to the budget year. Their extremely effective work has been indispensable in enabling the members of the Committee to see the real issues and choices before us. In discharging these responsibilities, Dr. Lewis and Mr. Schafer have relied heavily on the Controller's office and other administrative departments. Finally, the Committee wishes to express its thanks to Mr. James Mnookin, who has served ably as Secretary of the Committee.[*]

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Theodore J. Ziolkowski

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[*] The list of Committee members presented below consists of those who were able to continue serving on the Committee through its last meetings concerned with the preparation of this report. Mr. Richard C. Madden, a graduate student in Statistics, met with the Committee during much of the fall, but then had to be excused from further attendance because of travel plans related to his program of graduate study. His place was taken by Janet Swinehart. The fourth undergraduate member, Mr. Frederick V. Tyler, '72, had to be excused from participation in the work of the Committee because of an unavoidable conflict with his other responsibilites.

I. THE WORK OF THE PRIORITIES COMMITTEE

This is only the second year in which there has been a Priorities Committee as such,[1] and since the Committee is so new it may be helpful to say a few words about its composition, functions, procedures and general characteristics.

The Priorities Committee is one of seven charter committees of the Council of the Princeton University Community: its members are nominated by the Executive Committee of the Council (chaired by the President) and approved by the Council as a whole. As stipulated in the Charter of the Council, the Priorities Committee has sixteen regular members: three administrative officers serving *ex officio* (the Provost, who is the chairman, the Dean of the Faculty, and the Financial Vice-President and Treasurer); six faculty members (including at least one from each of the four academic divisions of the University and at least one non-tenure member); four undergraduate students; two graduate students; and one representative of other groups (the administrative staff in the case of this year's Committee). In addition, the Director of the Budget, the Vice-President for Development, the Associate Provost for Resource Planning, and the Executive Director of Administrative and Personnel Services meet regularly with the Committee. The President also meets with the Committee as often as his schedule permits.

The first and most basic function of the Priorities Committee is to advise the President, and it is understood by all members that the President is free to accept, reject, or modify the recommendations of the Committee before submitting his own recommendations to the Board of Trustees. In the course of developing recommendations for the President, the members of the Priorities Committee have an unusual opportunity to learn a great deal about

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[1] The reason for the words "as such" is that there is a considerably longer history of informal consultation with elected faculty and student committees on major questions of budget policy.

University finances, and the second function of the Committee is to share this understanding with other members of the University community. This process of communication is meant to work in both directions: the members bring back to the Committee the special concerns and viewpoints of other members of the University community while at the same time helping to provide others with the broader perspective needed to understand why a particular course of action is being recommended.

It was evident in the summer of 1970 that the Priorities Committee would face an exceedingly difficult set of problems in developing recommendations for 1971-72. The closing of the accounts for the fiscal year ended June 30, 1970 (Fiscal 1970) showed that the University had run a deficit of almost $1 million in that year; furthermore, revised projections for 1970-71 indicated a likely deficit of about $2. 5 million. Against this somber background it was decided that work on the budget for 1971-72 and advance planning for 1972-73 and 1973-74 had to begin without delay. Accordingly, materials were distributed to all members of the Priorities Committee over the summer and a full schedule of meetings was planned for the fall and winter.

At its first regular meeting in September, the Committee discussed a set of guidelines to be issued to departments for use in preparing budget requests for 1971-72. These guidelines, intended to discourage the submission of proposals for expansion which we knew in advance could not be supported, were included in a memorandum sent by the Provost to all academic and non-academic departments on September 15. (A copy of this memorandum is included with this report as Appendix C.)

Having devoted three meetings in September to a preliminary review of the overall financial situation, a discussion of its own procedures, and consideration of the guidelines, the Committee began its schedule of regular meetings on October 8. All told, the Committee has met 20 times so far this year. In addition, most members have served on two or three subcommittees involving an additional six to ten meetings.

In the main, we followed the agenda and procedures agreed on in September. Specific topics were scheduled for each meeting; particular members of the Committee were assigned responsibility for conducting a preliminary review of the subject to be discussed, this review (where practical) to include meetings with the heads of the main departments concerned; written materials were distributed to the other members in advance of the meeting if this was at all possible; the questions at issue were discussed at length within the full Committee; and then, if important questions remained unanswered, further information was sought in preparation for more discussion at a later date. If agreement was reached on a recommendation for a particular area at an early meeting, it was nonetheless regarded as tentative pending discussion of other areas and of the budget as a whole.

The special subjects listed on the agenda for the round of meetings which began in October included: faculty and staff housing, tuition, faculty manning, the computer center, dormitory and food services, the library, the operation and maintenance of the physical plant, undergraduate student aid, graduate student support and rents on graduate student housing, special academic programs, athletics, academic administration, general administration, and faculty and staff salary pools. In addition, at various points in the course of its work the Committee received estimates of the overall budget situation for 1971-72 and projections for 1972-73 and 1973-74. Considerable time has been devoted to broad questions of budgetary strategy and priorities as well as to the more specific areas listed above.

It is extremely difficult to describe the most important attribute of these meetings: their general tone and character. Perhaps the first thing to be said is that we have had uninhibited and candid discussions of all issues. Members of the Committee have had the opportunity to ask the appropriate officers of the University about any subject except the salaries of individuals. Very diverse viewpoints have been expressed, prejudices of various sorts have been acknowledged, pointed exchanges have occurred, and we have often wanted to discuss a subject longer than was possible because of time constraints. Throughout, however, these discussions have been characterized by a remarkable lack of special pleading. The members have taken seriously their responsibility to think about the best interests of the University as a whole, and there has been no tendency toward log-rolling. Perhaps most significant of all, the members of the Committee have in fact learned from each other. This has been true of the administrative officers, the faculty, and the students alike.

A few words also need to be said concerning relationships between the Committee and individuals outside it. While pressures of time have not permitted the Committee to hold real "hearings" on any of the subjects under discussion, officers of the University with direct responsibility for areas of special concern were invited to meet with the Committee for general discussion. Thus, Messrs. Poage and Spitzer met with us to discuss the computer center; Mr. Dix to discuss the library; Dean Lemonick to discuss graduate student support; Dean Sullivan to discuss undergraduate student aid; Dean Rudenstine to discuss dormitories and food services; Mr. Moran to discuss planning, plant, and properties; and Mr. Fairman to discuss athletics. (Dean Lester, Mr. Mestres, Mr. Maruca, and Mr. Bessire, who met regularly with the Committee, also answered questions concerning areas under their purview.)

In addition, there were many contacts outside of meetings between members of the Committee and others in the University community. Some of these were informal (e.g., faculty members contacting colleagues on the Committee to express various points of view and the UGA officers meeting with the undergraduate members to discuss policies regarding admission and student aid) while others resulted from a new procedure we tried this year involving the use of subcommittees. It was obvious from the outset that the Committee as a whole could not study either complex questions of policy or the workings of particular offices in as much detail as seemed desirable. Consequently, we decided to experiment with the use of subcommittees, normally composed of one administrative officer and two or more other members of the Committee, and charged with making a preliminary review of important segments of the budget. To illustrate, the subcommittee concerned with general administration met with the University officers most directly concerned with particular groups of administrative departments prior to the discussion of general administration within the whole Committee.

These contacts between members of the Committee and others were very useful in helping us gain a better understanding of the activities and problems of various departments. At the same time, these meetings raised important questions concerning the level of detail at which our Committee should operate and the nature of our recommendations.

There is at least the appearance of a dilemma here. On the one hand, the Committee has not wanted to make recommendations concerning the overall level of expenditures on, say, athletics, without reasonably clear knowledge of what the actual effects of a particular recommendation would be. To recommend levels of expenditure -- and particularly budget reductions -- without awareness of the probable effects would have been irresponsible. Accordingly, heads of a number of departments were asked to indicate what specific activities would have to be sacrificed if the budget of the department were to be reduced by, say, 10 percent, and we have analyzed these submissions in great detail. At the same time, the Committee has also felt strongly that it ought not to be making budget recommendations on a line-item basis. It does not have the competence to do so. Furthermore, it would be wrong for a Committee of this kind to give even the impression of trying to run programs or offices.

We believe that this dilemma is more apparent than real. Our two objectives -- needing to know enough about likely effects to make responsible recommendations while at the same time leaving decisions concerning the operations of programs and offices to administrative officers -- can be reconciled. The recommendations of the Committee concerning priorities and general levels of expenditure must be based on a detailed examination of probable consequences; however, once general budgetary limits and policy guidelines have been set by the President and the Trustees, the heads of offices and programs must have the flexibility to operate as they think best within those limits and guidelines. It is in this spirit that the Committee has made its recommendations.

Our final recommendations do not reflect complete agreement among all members of the Committee on all particulars. It would be extraordinary -- indeed, cause for concern -- if sixteen individuals, who also represent widely different perspectives and experiences, were to arrive at exactly the same conclusions on every one of a long list of complicated questions. Some differences in judgment must be expected, particularly when there are so many real uncertainties involved in defining the choices and constraints. For example, it is hard to be sure about the effects of various budget actions on morale inside the University as well as on support from outside the University; some of us are more optimistic than others concerning increased Federal support over the next two or three years; the likely rate of change in the "technology" of libraries is very difficult to forecast; and so on.

This is, nonetheless, a unanimous report. All members of the Committee endorse both the overall set of recommendations and the general statements of principle and policy contained in the report. While each of us might prefer to see one or more particular recommendations changed in some respect, the differences among us are, in fact, remarkably few. The overall set of recommendations reported here represents our best sense, as a group, of how the University ought to respond to a very difficult situation. We believe that these recommendations are consistent with the broad principles outlined in Section III, and that they deserve the support of all elements of the University community.

Since our main function is to advise the President, the nature of the relationships between the Committee and the President deserve brief comment. As noted above, the President has met with the whole Committee at several important stages of our work, and members of the Committee have benefited greatly from these opportunities to ask the President for his own sense of what ought to be done in such important areas as salary policy. In addition, the President has been kept informed of the work of the Committee on a week-to-week basis and has discussed all of the important issues at length with individual members of the Committee, and especially with its Chairman.

The Committee has also kept in close touch with representatives of the Board of Trustees. In November a delegation from the Priorities Committee met with the Budget Subcommittee of the Finance Committee of the Board for a wide-ranging discussion of the overall magnitude of the University's financial problem and the kinds of steps that might be taken to deal with it. Subsequently, the Provost and the Financial Vice-President and Treasurer have been responsible for keeping the Trustees informed of the thinking of the Committee and for bringing back to the Committee the general reactions of the Trustees.

It remains only to say a few words about the on-going nature of the budget process and the further work of the Priorities Committee. In the case of important elements of the budget (for example, administrative systems and data processing and athletics), the reviewing process to date has raised a number of important questions as well as resolved others. The open questions are being pursued, in part by obtaining more information and discussing common problems with other universities (the case of athletics), and in part by encouraging experiments of one sort or another (administrative systems and data processing). The budgets for such departments may of course be altered as a result of this work, and that is one reason why the overall budget is never fixed in all of its details. Furthermore, various income and expenditure estimates must also be expected to vary because of unanticipated happenings over which the University has no control (for example, fluctuations in earnings on the University's investment portfolio).

When, for any of these or other reasons, important questions of policy are raised relative to the 1971-72 year, the Priorities Committee will meet to discuss them. In addition, the Committee will now be devoting considerable time to longer-run questions -- in particular, how to reduce further the base of the budget carried forward into 1972-73, 1973-74, and subsequent years. This will entail careful consideration of the arguments for and against rather substantial modifications of selected academic and non-academic programs.

Looking to the future, many members of the Committee feel that they must now concentrate much more of their attention on these larger issues. This fall and winter the Committee has devoted an enormous amount of time to a detailed analysis of present levels of activity in many areas and departments. This was a necessary exercise, both in its own right and as a prelude to exploration of larger questions. No doubt there is room for some further probing of the efficiency with which present activities are carried out. But, we doubt seriously whether it is necessary or desirable for the whole Committee to conduct another review next fall which is as detailed and as time-consuming an analysis of individual departments as the one we conducted this fall. There are major questions of policy and program which deserve the most careful attention, and it is to these questions that the Committee now intends to direct most of its effort.

II. THE UNIVERSITY'S OVERALL FINANCIAL PROBLEM: NATURE, MAGNITUDE, AND POLICY RECOMMENDATIONS

Recent Trends: Surpluses and Deficits

The simplest way to describe any university's overall financial situation is in terms of the relationship between total expenditures and total income, with the resulting surplus or deficit serving as a direct indication of the current condition. This kind of description can, in fact, be very misleading, especially if it is read as implying strong things about either the educational health of a university or the skill with which its affairs have been directed. Nevertheless, looking at recent trends in the balance between current expenditures and current income does provide a good starting point for our analysis, and Figure 1 presents the figures for Princeton over the period 1959-60 through 1970-71.[1] It must be emphasized that the numbers for 1970-71 are estimates only and that, because of all the uncertainties involved, the final numbers could differ appreciably from these estimates in either direction.

As the bottom panel of Figure 1 reveals most clearly, the financial history of Princeton over these years can be divided roughly into three sub-periods (marked off by the dotted vertical lines on the figures):

(1) Fiscal years 1960 through 1964, which were characterized by an unbroken string of five operating surpluses averaging just over half a million dollars per year;

(2) Fiscal years 1965 through 1969, which were characterized by much tighter financial conditions as reflected in four surpluses so small as to be negligible

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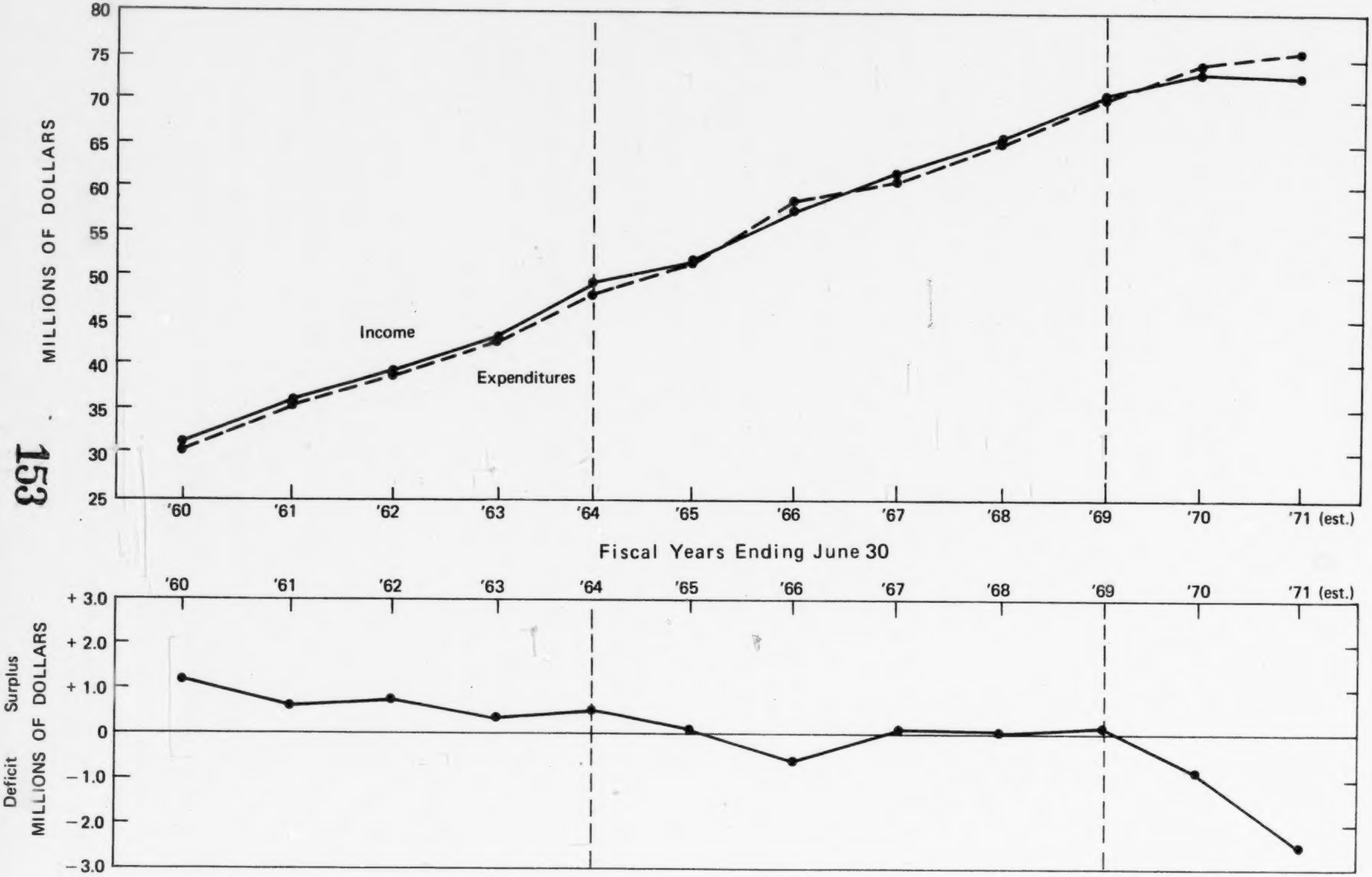
[1] Hereafter we shall often refer to the financial data for a year such as 1959-60 as the figures for "Fiscal Year 1960" or simply "FY 60."

FIGURE 1
Princeton University Operating Budget
Total Expenditures and Total Income
Surpluses and Deficits
FY 60 – FY 71 (est.)



(averaging only about $50,000 per year, or less than 1 percent of total expenditures) and one significant deficit ($645,564 in FY 66).

(3) Fiscal years 1970 and 1971, which were characterized by two successive deficits of substantial size -- an actual deficit of almost $1 million in FY 70 and an estimated deficit of about $2.5 million for the current year.

This is not the place for a detailed study of the factors responsible for these swings. It should be said, however, that throughout this period the most significant changes have occurred on the income side of the ledger, not on the expenditure side. During the early and middle 1960's, Princeton, like many other colleges and universities, benefited from unprecedented increases in support from individuals, corporations, foundations, and government agencies. This growth in income in turn permitted the University to increase expenditures substantially -- specifically to raise salaries, to strengthen educational programs at graduate and undergraduate levels, to undertake a small number of new efforts (in Plasma Physics and international and regional studies, for example) -- and, at the same time, to make modest additions to the University's general reserve fund. During the latter half of the decade of the 1960's income from almost all of these sources continued to increase, but at a slower rate, and as a result the operating budget came under more severe pressure. Even though the University continued to break even during all but one of these years, it was evident that the underlying trends would make this result much more difficult -- if not impossible -- to achieve in the early 1970's. And, the forecasts made during the late 1960's have been borne out by subsequent events.[1]

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[1] Readers interested in an analysis of the factors responsible for trends in expenditures and in income, as they appeared in the spring of 1967, may want to refer to: W. G. Bowen, The Economics of the Major Private Universities, Carnegie Commission on Higher Education, Spring 1968. This study was later updated, revised somewhat, and republished in "The Economics and Financing of Higher Education in the United States," Compendium of Papers Submitted to the Joint Economic Committee, U.S. Congress, 1969.

For the purposes of this report it is the changes from FY 69 to FY 70, and from FY 70 to FY 71, that merit most careful consideration. What has been responsible for the rapid worsening of the University's financial position over this two-year period? The first answer to this question is a negative one: the actual deficit of almost $1 million in FY 70 and the estimated deficit of about $2.5 million for FY 71 are not attributable to stepped-up rates of increase in expenditures. Over the ten-year period beginning with FY 60 and ending with FY 69 the average rate of increase in total expenditures was 9.8 percent per year. Between FY 69 and FY 70, the comparable rate of increase was 5.3 percent; and between FY 70 and FY 71, total expenditures rose only 1.1 percent.

These figures for total expenditures are not, however, an entirely reliable basis for analyzing trends in expenditures under the direct control of the University because they contain a substantial component representing the direct costs of sponsored research ($24 million of a total of $70 million in FY 69). The volume of expenditures for the direct costs of sponsored research depends on the ability of project leaders to obtain outside support, mostly governmental, for their research, and decreases in this category of expenditures are offset, dollar for dollar, by decreases in income from contracts or grants which can be spent only for the sponsored projects. Thus, the sudden slowdown in the rate of increase of total expenditures shown on Figure 1 might mask a situation in which direct expenditures for sponsored research (and the associated income) had fallen so rapidly that the rate of increase in total expenditures declined for that reason even though other expenditures, over which the University has more control, had been rising at an unusually rapid rate. If this were the case, the growing deficit might still be attributable to unusually sharp increases in those expenditures that have to be financed from University funds.

In point of fact, direct expenditures for sponsored research at Princeton have declined very markedly in recent years, falling from $23.9 million in FY 69 to an estimated figure of $19.3 million for FY 71. Thus, to test the proposition stated above, it seems desirable to exclude direct expenditures on sponsored research from our calculations and then see what the trend in other expenditures looks like. When we do this we find that other expenditures rose at an average annual rate of 10.7 percent over the whole period from FY 60 through FY 69 and at an average annual rate of 9.3 percent between FY 69 and FY 70 and between FY 70 and FY 71. Hence, even when we eliminate the effects of cutbacks in sponsored research, we still find no indication that the rate of increase in expenditures has been higher over the last two years than over the earlier period. This conclusion contrasts sharply with the results of a similar analysis for FY 66, the only other recent year in which the University ran a substantial deficit. Between FY 65 and FY 66, expenditures exclusive of direct charges for sponsored research rose 12.9 percent. Thus, the deficit of $646,000 in FY 66, unlike the deficits in FY's 70 and 71, can be attributed to an above-average rate of increase in spending.

The fact that expenditures other than the direct costs of sponsored research have not risen as rapidly over the last two years as over the previous nine years is particularly noteworthy when we recognize that: (1) the general rate of inflation has been appreciably greater over the period 1969-1971 than over the period 1960-1969, and this has meant stronger upward pressure in the last two years on salaries and on the costs of all kinds of materials and supplies; (2) enrollment increased more rapidly from 1969 to 1971 than between 1960 and 1969, largely as a result of coeducation; and (3) the sharp declines in direct expenditures on sponsored research have forced the University to make some additional expenditures out of University funds to meet short-run obligations to staff members and graduate students.

Thus, during the last two years some modest progress has been made in slowing the rate of growth of expenditures. This is particularly evident when expenditures are measured on the basis of cost per student. Still, it is clear that considerably more stringent restrictions on the growth in expenditures are essential in view of the outlook for income.

Recent Trends: Sources of Income

Put simply, the recent swing from modest surpluses to significant deficits is primarily the result of a slowing down in the rate of growth of income. This is evident from the figures for total income plotted on Figure 1, but the sharp decline shown there (with total income for FY 71 actually lower than total income for FY 70 by $790, 000) overstates the point somewhat because it is so much the result of the extraordinary cutback in support for sponsored research noted above.

We do not mean to minimize the significance of reductions in sponsored research, either in terms of direct effects on the ability of the faculty, staff, and students to conduct research or in terms of the appreciable indirect effects on the deficit (through loss of indirect cost reimbursements for "overhead" expenses, for example). Still, it is instructive to look at changes in income after excluding funds earmarked to cover the direct costs of sponsored research. When we do this we find that over the whole period from FY 60 through FY 69 all other income increased at an average annual rate of 9. 9 percent. However, between FY 69 and FY 70, the comparable rate of increase was 6. 9 percent, and our most recent projections suggest a 6. 5 percent rate of increase between FY 70 and FY 71. This general slowing down in the growth of income, coupled with the precipitous drop in funding for sponsored research, is the major new element in Princeton's financial situation. Its importance is attested to by the fact that a difference of only one percentage point in the rate of growth of income other than from sponsored research is equivalent to the loss of more than half a million dollars.

Before looking at particular sources of income in more detail -- and at some projections for next year as well as at results to date -- it is worth noting that this description of Princeton's financial problem also seems to fit many other colleges and universities. Earl Cheit, in his

Carnegie Commission study of 41 colleges and universities,[1] says on the first page of the first chapter:

> "...What seems to be a new fiscal phenomenon appeared in the latter half of the 1960's -- a declining rate of income growth, and in some cases an absolute decline in income."

Major Sources of Income and Projections for FY 72

In the case of Princeton, the main sources of income are itemized on Table 1 for FY 69, FY 70, and FY 71, with the figures for FY 71 again having the status only of estimates. In addition, this table shows the projections for FY 72 of those elements of income that are "given" in the sense of being independent of policy decisions to be made regarding tuition rates, room and board charges, rates charged for the use of the computer, rents on faculty and staff housing, and so on. The blank rectangles for some sources of income in FY 72 are there to emphasize that one of the responsibilities of the Priorities Committee has been to make recommendations affecting the amount of income to be received from student fees, auxiliary activities, and service departments. Our proposals for filling in these blanks are indicated later in this report. Here we are presenting the income table as it appeared to us when we began our consideration of budget proposals for FY 72.

The largest changes for any source of income over this four-year period -- and all of them are negative -- are for U.S. Government sponsored research. The figures in Table 1 differ from those referred to earlier in that they include reimbursements for indirect costs as well as for the direct expenses of the various projects. Having experienced a decrease of $1.2 million between FY 69 and FY 70, we are expecting a further decrease of $3.8 million this year and are projecting an additional reduction of $1.9

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[1] To be published soon by McGraw-Hill under the title: "The New Depression in Higher Education."

TABLE 1

Major Elements of Income
Fiscal Years 1969, 1970, 1971, 1972
($ thousands)

	FY 69 Actual	FY 70 Actual	FY 71 Budget	FY 72 Projected	Annual Increments: FY 70	FY 71	FY 72
1. Endowment	11,073	12,310	14,262	14,855	+1,237	+1,952	+ 593
2. Student Fees	10,372	11,759	13,038	☐	+1,387	+1,279	☐
3. Gifts and Grants (Non-Government)	8,102	8,687	8,201	7,717	+ 585	- 486	- 484
4. U.S. Government: Sponsored Research	28,917	27,737	23,938	22,067	-1,180	-3,799	-1,871
5. U.S. Government: Other	3,289	3,128	2,465	1,809	- 161	- 663	- 656
6. Auxiliary Activities (Athletics, Dormitories and Food Services, Housing)	7,090	7,712	8,666	☐	+ 622	+ 954	☐
7. Service Departments	1,999	2,845	3,251	☐	+ 846	+ 406	☐
8. Other (income on current funds, etc.)	2,045	2,304	2,287	2,523	+ 259	- 17	+ 236
9. Total	72,886	76,481	76,109	☐	+3,595	- 372	☐
10. Less Interdepartmental Charges	-2,135	-3,017	-3,435	☐	- 882	- 418	☐
11. GRAND TOTAL	70,751	73,464	72,674	☐	+2,713	- 790	☐
12. Selected Sub-Total: (lines 1+3+5+8)	24,509	26,429	27,215	26,904	+1,920	+ 786	- 311

Note: Detail may not add to totals because of rounding.

million in FY 72. While the decision by the Atomic Energy Commission to discontinue support of the Princeton-Pennsylvania Accelerator accounts for a large fraction (over 80 percent) of the total reduction in Federal support of sponsored research between FY 69 and FY 71, severe effects have also been felt by many smaller research projects, some of them involving only one or two Faculty members and some graduate students.

The composite picture for all other sources of income regarded as "givens" is shown in the last line of Table 1, which, in spite of its unexciting designation ("selected sub-total"), contains extremely important information. This line shows that, taken together, endowment income, private gifts and grants, U.S. Government grants for purposes other than sponsored research (e.g., support of graduate students and language and area programs), and "other income" (mostly interest and dividends on current funds), increased $1,920,000 in FY 70 but are expected to increase only $786,000 in FY 71. Even more distressing is the projection for FY 72: it suggests that, far from helping to meet rising costs, these elements of income seem likely to decline by $311,000 from the level reached in the current year. This unhappy prospect has affected all of the deliberations of the Priorities Committee, and a few words of explanation are in order.

Let us start with endowment income. It is the income spent during the fiscal year from the dividends and interest previously earned on the University's investment portfolio.[1/] Year-to-year changes in endowment income are determined by four principal factors: (1) changes in the rate of return earned per unit on the University's investment portfolio; (2) the addition of new units of endowment or the spending of existing endowment

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[1/] This is the conventional way of defining endowment income and it is still in use at Princeton. The Trustees have approved a new approach which would permit the spending of a prudent part of capital gains under carefully specified conditions. (The plan is described in a booklet titled "The Definition of Endowment Income," which is available from the office of the Financial Vice-President and Treasurer.) However, this new approach must receive legal clearance before it can be adopted, and we do not expect it to have any effect before FY 74.

for current purposes; (3) changes in the extent to which current income in restricted accounts is in fact spent rather than allowed to accumulate; and (4) changes in the extent to which income already accumulated in some accounts during previous years ("roll-up") is spent during the fiscal year in question.

In fiscal years 1970 and 1971, endowment income increased dramatically ($1,237,000 in FY 70 and $1,952,000 estimated for FY 71). These two big jumps are in part the result of rising interest rates and good investment results. The dividends and interest earned per unit of the University's portfolio increased by 6.8 percent for FY 70 and by 9.5 percent for FY 71. Endowment income also increased substantially in FY 70 and is expected to increase even more in FY 71 because of increased utilization of restricted funds and of funds accumulated in prior years. (We doubt, it should be said in passing, that the actual increase in FY 71 will be as large as the estimated increase, because some endowment income appropriated to restricted accounts will not in fact be spent, thus reducing both estimated income and estimated expenditures -- with no impact on the deficit.)

The problem is with FY 72. At Princeton, it is dividends and interest earned during the year ending May 31, 1971 that are credited to endowment accounts to be spent in 1971-72. And, the Controller has advised us that, because of the depressed state of the economy during most of 1970-71, we should not expect an increase in earnings per unit for this year which is comparable to the record increases of the last two years. Accordingly, we have projected an increase of $593,000. As can be seen from Table 1, this is only a fraction of the increments to total income provided by earnings from endowment in previous years.

In the case of private gifts and grants (line 3 on Table 1), an absolute decrease of approximately half a million dollars is estimated for FY 71 and another drop of about the same amount is projected for FY 72. These figures assume that Annual Giving, which contributed approximately $3 million in FY 70 will be up slightly (to $3.1 million) in FY 71 and FY 72. This is not a target -- we of course hope to do better -- but it is a planning figure. The decreases of \$486,000 and \$484,000 shown on the table represent mainly expected decreases in non-government sponsored research and the phasing out of foundation support for certain activities (especially library purchases and graduate fellowships).

The next category to be discussed, U.S. Government: Other, contains all Federal grants not for sponsored research. The substantial decrease expected in FY 71 consists of \$100,000 less support for the computer center and a drop of \$562,000 in Federal fellowships and cost-of-education grants at the graduate level. In FY 72 we must anticipate another reduction of \$400,000 in support for the computer, as a three-year NSF grant expires, and a further reduction of approximately \$250,000 in support of graduate students.

The last category included in our list of sources of income regarded as "givens" is the miscellaneous category labeled Other (line 8 of Table 1). Actually, it reflects mainly income received from the investment of current funds plus a number of accounting adjustments, and no special explanation seems necessary.

Having now documented the recent developments affecting uncontrollable sources of income, and having indicated why, taken together, they pose such a serious problem for us, we turn directly to the question of how we believe the University should respond to this situation. The remaining sources of income included on Table 1, but not mentioned above because they involve policy decisions concerning charges for tuition, room and board, rent, and so on, will be a part of this discussion.

Budgeting for FY 72: A General Summary

Because of the substantial deficit expected in the current year and the distressing outlook for the "given" sources of income described above, it was apparent from the outset that it would be extremely difficult to develop a satisfactory set of budget proposals for FY 72. As a first step in the effort to control expenditures, stringent guidelines were distributed to all departments in advance of any submissions of budget requests for FY 72. These guidelines (reproduced as Appendix C of this report) asked heads of departments: (1) to propose no net additions to staff; (2) to reexamine all vacancies to see if they could remain unfilled; (3) to propose expense budgets no larger than those approved for FY 71; (4) to try to avoid shifting any charges from sponsored projects or other restricted accounts to general funds; and (5) to make every effort to substitute the use of restricted funds for general funds.

Detailed budget requests were then submitted by the heads of all departments and these submissions were processed and added up. At about the same time estimates were made of the amount of income that could be expected in FY 72 from those sources not already projected in Table 1 above -- student fees, income from dormitories, food services, faculty and staff housing, other auxiliary activities and service departments -- if there were no increases in charges.

Combining these income and expenditure figures with a hypothetical figure for salary increases and with several other "formula calculations" explained below gave us our first fairly precise estimate of the magnitude of the financial problem for FY 72. The result was a projected deficit of just under $5.5 million.

While we had never expected the deficit based on this set of calculations to be a tolerable one, we had hoped that it would be much closer to an acceptable level than it in fact was. In any case, we have devoted the remainder of the fall and early winter to reducing the projected deficit by: (a) recommending substantial increases in charges of all kinds and (b) recommending levels of expenditure well below those proposed in most initial budget requests. To state the outcome in a single number, all of our recommendations and estimates taken together imply a deficit for FY 72 of about $1.2 million.

TABLE 2

Summary of Income and Expenditure Projections
Fiscal Year 1972
($ Thousands)

		FY 72 Projections:		
	FY 71 Budget	Initial Situation [1]	Current Recommendation	Change: FY 72 Recommended — FY 71 Budget
I. Income:				
1. Endowment	14, 262	14, 855	14, 855	+ 593
2. Student Fees	13, 038	13, 593	14, 876	+1, 838
3. Gifts & Grants (Non-Government)	8, 201	7, 717	7, 717	- 484
4. U. S. Government, Sponsored Research	23, 938	22, 067	22, 067	-1, 871
5. U. S. Government, Other	2, 465	1, 809	1, 809	- 656
6. Auxiliary Activities	8, 666	9, 000	9, 450	+ 784
7. Service Departments	3, 251	3, 317	3, 317	+ 66
8. Other	2, 287	2, 523	2, 523	+ 236
Sub-Total	76, 109	74,881	76,614	+ 505
9. Less Interdepartmental Charges	-3, 434	-3, 520	-3, 520	- 85
Total Income	72, 675	71, 361	73, 094	+ 420
II. Expenditures:				
1. All Depts., Programs and Supporting Services	75, 931	74, 935	72, 721	-3, 210
2. Salary Increases	---	1, 814	1, 452	+1, 452
3. Amortization of Indebtedness and Transfers to Reserves	3, 234	3, 422	3, 422	+ 188
4. Savings from Unfilled Positions	- 550	- 100	- 100	+ 450
5. Allowance for Contingencies	50	300	300	+ 250
Sub-Total	78, 665	80, 371	77, 795	- 870
6. Less Interdepartmental Charges	-3, 435	-3, 520	-3, 520	- 85
Total Expenditures	75, 230	76, 851	74, 275	- 955
III. Surplus (Deficit)	(2, 556)	(5,490)	(1, 181)	1, 375

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[1] Income estimates assume no changes in user charges; expenditure figures are based on initial budget requests.

The major objective of most of the rest of this report is to explain in some detail the derivation of the specific recommendations concerning income and expenditures which underlie the projected deficit of $1.2 million, the implications for the University of each of the major recommendations, and the reasoning involved in arriving at them. Right here, however, it seems useful to present a brief tabular summary of the income and expenditure totals (see Table 2) and to make a few general observations.

In working on the budget for FY 72, we saw it to be essential to reverse and turn downward -- and not merely for the year ahead -- the trend of growing deficits the University has recently experienced. We did not, however, think it wise to start with some predetermined result -- whether it be a balanced budget in FY 72, a deficit of $1 million, $1.5 million, $2 million, or whatever. Any such predetermined figure would have had to be arbitrary, and the costs involved in reaching it, measured in terms of effects on the educational quality of the University and on morale, might or might not have been greater than the benefits. Accordingly, we decided to proceed more pragmatically, testing each potential source of improvement in the deficit against the likely effects on the University and trying to pay particular attention to the long-run consequences of various courses of action. We have been determined not to make recommendations that would imperil the essential quality of the University.

The projected deficit of $1.2 million at which we finally arrived is about $1.4 million lower than the estimated deficit for the current year and about $4.3 million lower than the initial figure for FY 72. This is not to suggest that anyone can be pleased with a deficit of $1.2 million. If a deficit of this magnitude in fact occurs in FY 72, it will have to be financed by drawing down capital, and this in turn will mean less earning power for the future. Still, there is one very important sense in which a projected deficit of $1.2 million for FY 72 is an encouraging result. It suggests that we have achieved the objective of reversing the trend toward larger and larger deficits which seemed to be starting at Princeton and which has occurred at many other colleges and universities.

How much satisfaction can be derived from having reversed the direction of change depends, of course, on whether this really represents substantial progress back toward budget balance or whether it represents only a temporary pause which will soon be followed by the appearance once again of growing deficits.

This question of what comes next has been much on our minds all through the process of developing recommendations for FY 72, and a series of alternative projections for FY 73 and FY 74 are described later in this section. They show the conditions under which we hope it will be possible to make further progress toward restoring a balanced budget. Before moving on to a consideration of the outlook for FY 73 and FY 74, however, it is necessary to say a little more about the general characteristics of both the income and expenditure sides of the proposed budget for FY 72.

Budgeting for FY 72: Increasing Income by Raising Tuition and Other Charges

It would have been impossible to reduce the deficit for FY 72 to anything like its proposed level without recommending significant increases in charges of all kinds. The differences on Table 2 between the "initial" income estimates for FY 72 and the "recommended" estimates are due entirely to higher charges. In total, they amount to $1,733,000 of additional income. (It should be noted, however, that by no means all of the increases between FY 71 and FY 72 in income from student fees or from auxiliary activities are the result of increased charges. Increases in both of these categories also reflect rising enrollment as a result of coeducation, and this source of additional revenue is reflected in the "initial" income estimates for FY 72. As can be seen by comparing these initial FY 72 figures with the figures for FY 71, the amounts involved are considerable -- roughly $550,000 of student fees and $330,000 of income from auxiliary activities.)

The increase in income of $1,733,000 associated with higher charges results from the following specific proposals:

- Tuition: to increase by $300 at both undergraduate and graduate levels (from $2,500 to $2,800 for undergraduates and from $2,600 to $2,900 for graduate students);

- Undergraduate Dormitory Charges: to increase by $50 (from $530 to $580 per year);

- Undergraduate Dining Charges: to increase by $60 (from $740 to $800 for students with 20-meal contracts at Commons and from $900 to $960 for students with 20-meal contracts at the "halls" and "colleges");[1]

- Graduate College Dormitory and Food Service Charges: to increase on average about $73 (6.75 percent);

- Rents for Married Graduate Student Housing: to increase about 10 percent;

- Rents for Faculty and Staff Housing: to increase 10 percent across-the-board plus additional increases on some units as part of a three-year rent equalization program;

- Cafeteria Prices: to increase on average about 10 percent;

- Athletic Ticket Book Prices: to increase by an amount yet to be determined, but probably from $22 to $25 for students and from $16 to $25 for faculty and staff.

It is with the greatest reluctance that the Committee recommends such substantial increases. They will affect virtually every member of of the University community and will cause real hardship for some students (and parents) and some members of the faculty and staff living in University housing. We have arrived at these recommendations only after a detailed analysis of trends in the costs of some of the services provided (housing and dining) and, especially in the case of tuition, after a careful examination of corresponding charges at other colleges and universities. As the more complete discussion of these recommendations presented later will emphasize, we have also tried hard to be sensitive to considerations of equity: to move away from situations in which some groups within the University community subsidize others for reasons which are hard to justify.

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[1] For 14-meal contracts the increase recommended is also $60, but for 7-meal contracts the increase recommended is $40.

Other parts of this report contain recommendations intended to cushion, at least in limited ways, the effects of higher charges on students and their families. Still, we have concluded that under present circumstances those who benefit most directly simply must be asked to pay a larger fraction of their own educational costs.

Budgeting for FY 72: Restraining the Growth of Expenditures

Moving from the potential deficit of $5.5 million revealed by our initial calculations to the proposed deficit of $1.2 million has involved more than simply increasing charges enough to yield an additional $1.7 million of revenue; it has also involved cutting $2.6 million from requested expenditures. And, it should be stressed that these cuts were made from budget requests that had been submitted after department heads had received the stringent budget guidelines described earlier. To be sure, not all department heads observed the guidelines scrupulously, and some of the cuts recommended by our Committee consisted of bringing requests in line with the guidelines; most cuts, however, consisted of recommended reductions in the budget bases of departments and programs.

One way of examining the overall magnitude of the Committee's proposals is by comparing the recommendations for FY 72 with the expenditures budgeted for FY 71. As can be seen from Table 2, projected expenditures of all kinds for FY 72 are almost $1 million lower than the total expenditures which we expect will be made during the current year. If these projections hold, this will be the first time since the end of World War II when the total budget of the University has declined from one year to the next.

The projected decrease in total expenditures is seen to be even more significant when we recognize that it is expected to occur in the face of a number of forces largely outside the control of the University which are pulling in the opposite direction. Specifically, Table 2 shows that projected expenditures for FY 72 are being pushed up by:

1. An increase of $188,000 in the charge to the operating budget for amortization of indebtedness and transfers to reserves for equipment purchases and major maintenance expenditures. The amortization of indebtedness increases only $10,000, with the remaining increase of $178,000 representing the results of a formula calculation which relates transfers to reserves in any one year to moving averages of expenditures in past years. Thus, until the relatively large expenditures made over the past five years for major maintenance work their way through the formula, there is nothing that can be done about this source of upward pressure on the budget.

2. An increase of $250,000 in the category labeled "allowance for contingencies." This substantial jump was required because of two very real contingencies: (a) the obligations of the University to the State unemployment compensation system, after coverage of University employees begins in January 1972; and (b) the likelihood that negotiations currently under way with the Atomic Energy Commission will result in the University having to absorb a larger share of library costs than has been the case in the past.

3. A swing of $450, 000 in the category labeled "savings from unfilled positions." Precisely because the budget for FY 72 will be so much tighter than any previous budget, we have not felt that we could count on anything like the savings in previous years from some authorized positions remaining vacant. Had we carried over the same allowance in the FY 71 budget into the FY 72 projections, the expenditure total (and thus the deficit) for FY 72 would have been $450, 000 lower than shown on Table 2. However, we do not believe that this would have been a proper procedure.

In addition to these three forces -- which together make the expenditure budget for FY 72 higher than the expenditure budget for FY 71 by $888, 000 -- we have of course had to make some provision for salary increases for members of the faculty and staff. Without trying to anticipate the longer discussion of salary policy in Section III of this report, it can be noted that the pool of $1, 452, 000 for salary increases shown on Table 2 (to be paid from general funds only) is intended to go disproportionately to those members of the staff who are less well paid. On grounds of equity and on grounds of keeping up with competition from other employers in local labor markets, the minimal salary increases implicit in this figure are in fact almost as uncontrollable as the items mentioned immediately above -- especially at a time when the cost of living continues to increase so steadily.

When allowance is made for all of these upward pressures on the expenditure side of the budget, we find that the overall reduction of almost $1 million in projected total expenditures between FY 71 and FY 72 is really attributable to a decrease of about $3. 2 million in all other expenditures for departments, programs, and supporting services (exclusive of salary increases). Approximately $2. 2 million of this reduction is expected to come in the form of lower expenditures on sponsored projects, and approximately $1 million is expected to come from lower base expenditures for a host of other programs and activities.

While no segment of the University has escaped the need to make significant economies, the major dollar savings, aside from sponsored research, are projected to occur in the following areas:

- Special Academic Programs: approximately $50,000 as a result of the elimination of the summer teacher intern program and the Office of Survey Research;
- Computer Center: $185,000;
- Athletics: $68,000;
- Security: $86,000;
- Academic Administration: $86,000;
- General Administration: $179,000;
- Planning, Plant, and Properties (operation of all buildings and grounds): $236,000.

Furthermore, it must be recognized that even those departments for which no absolute reduction in expenditures has been recommended will in many cases have to cut back on their base level of real expenditures nevertheless. The reason, of course, is that the prices of things they buy continue to rise, and these increases in unit costs will have to be absorbed out of fixed dollar budgets. The library is perhaps the best example of this situation. We have recommended that the library operate in FY 72 with the same dollar budget as in FY 71 (again, excluding salary increases). But, since the costs of acquisitions go up remorselessly, the library will have to reduce either acquisitions or services to live within this budget. More generally, if we make allowance for those funds in the FY 72 operating budget which will have to go to meet the rising costs of purchased items of all kinds, as well as salary increases, we obtain a better idea of the real reduction in the budget base of the University that is being recommended. Excluding sponsored research, we believe this reduction to be well over $2 million, measured in current prices.

Another way of summarizing the extent to which the growth in expenditures has been restrained is by comparing percentage rates of increase in total expenditures and in expenditures per student over the last few years with the experience for the whole of the decade beginning with Fiscal 1960. This has been done in Table 3.

The most important line on this table is the last line, which shows rates of increase in expenditures per student after eliminating changes in direct expenditures for sponsored research. The extent to which increases in cost per student have been dampened by the decisions of the last few years is evident. Having experienced an average annual rate of increase in cost per student of 7.8 percent between FY 60 and FY 69, we had an increase of 5.0 percent between FY 69 and FY 70, we are expecting an increase of 4.8 percent between FY 70 and FY 71, and we are projecting a decrease of -0.1 percent between FY 71 and FY 72. These results are attributable to the control over total expenditures which has been exercized over the last three years and to the increases in enrollment accompanying coeducation.

Since there has been so much discussion of the financial as well as educational aspects of coeducation, it is worth noting that the admission of women undergraduates has been accomplished well within the financial constraints described in the Patterson Report on coeducation and in the subsequent reports describing plans for implementation. In fact, the capital costs associated with Phase I of coeducation are below the original estimates; and, from the standpoint of the operating budget, the additional income from tuition has offset fully the additional educational costs.

Looking Ahead: Projections for FY 73 and FY 74

Because estimates of income and expenditure for the current year are still subject to uncertainty, and because projections for FY 72 must

TABLE 3

Rates of Change in Expenditures and in Expenditures Per Student, FY 60 Through FY 72 (Projected)

	Time Periods			
	FY 60 to FY 69 (Avg. Annual Growth Rates)	FY 69 to FY 70	FY 70 to FY 71 (Estimated)	FY 71 (Estimated) to FY 72 (Projected)
1. Total Expenditures [1]	9.8%	5.3%	1.0%	-1.3%
2. Total Expenditures Excluding Direct Expenditures on Sponsored Research	10.7%	9.2%	9.5%	2.2%
3. Total Expenditures Per Student (Excluding Direct Expenditures on Sponsored Research)	7.8%	5.0%	4.8%	-0.1%

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[1] After deducting interdepartmental charges.

be viewed as subject to quite considerable fluctuations, it is plain that any attempt to make projections several years further into the future must be viewed with caution and the results interpreted accordingly. Figures for surpluses or deficits are, of course, especially subject to error since they are the residual results of a host of factors and forces. In a budget of roughly $75 million, a net fluctuation of as little as 1 percent in either income or expenditures represents a swing of $750,000 -- almost two-thirds the size of the projected deficit for FY 72. And, swings of this magnitude or more can occur easily even over the short run. Actual amounts spent depend not only on budgetary allocations but on such other factors as decisions by graduate students to accept or reject admission, unpredictable variations in security costs, and so on. Income is affected by such varied factors as swings in corporate earnings and in the composition of the University's portfolio, the success of Annual Giving, the results of other efforts to raise funds from private sources, and Federal Government appropriations.

Nevertheless, the seriousness of the present financial situation requires that we do our best to look at least two or three years ahead when developing budgets and financial plans. While there is always the danger that projections will be misinterpreted, and viewed as embodying a precision that could in fact only be specious, there is, in our judgment much greater danger in not making projections. In a setting in which we face the possibility of a series of substantial deficits, rather than just a single bad year that could be considered an aberration, it simply is not responsible to consider each year as it comes or to make commitments this year without understanding their implications for the future. To take an obvious example, the number of entering students on financial aid will affect four successive budgets. Also, the full savings derived from certain policy decisions (for example, phasing out a program) usually appear only over a considerable period of time.

In the work done a year ago on the budget for the current year we made significant progress in forward planning. Having stated the "falling-off-the-cliff principle" in last year's report of the Priorities Committee (that we should avoid commitments that seem likely to force us to jump off a higher financial cliff in the future), we applied this principle to recommendations concerning the size of the graduate school, the nature of financial aid packages offered to graduate students, and the building up of library collections in certain specialized areas.

This year we have pushed this approach much farther and have asked the heads of a number of departments to provide us with alternative financial plans (based on different assumed levels of support) extending over the next three fiscal years. On the basis of these submissions and a number of other assumptions, we have constructed a series of composite projections for FY 73 and FY 74. The "higher" and "lower" sets of assumptions for both income and expenditure are presented in Appendix B.

One of these assumptions requires special comment here. It is the use of the same overall rate of increase (6 percent) for salary pools under both the "higher" and "lower" alternatives. For reasons stated more fully in Section IV, we do not believe the University can expect to hold salary increases much below this level in FY 73 and FY 74 without running real risks in terms of both morale and the ability to recruit and hold really excellent people. That is, we see the austere policy for salary increases being recommended for FY 72 as valid only on a one-year basis.

The analysis of these projections summarized in Table 4 and represented graphically in Figure 2 shows results ranging in FY 74 from a deficit of $3.8 million to a small surplus (about $70,000). This range is significant in and of itself, for it reveals the substantial variations in operating results associated with rather modest differences in assumptions. This range of results also helps us see the dimensions of our problem between now and July 1974 expressed in terms of one set of boundaries.

TABLE 4

Summary of Expenditure and Income Projections, Operating Budgets, FY 73 and FY 74

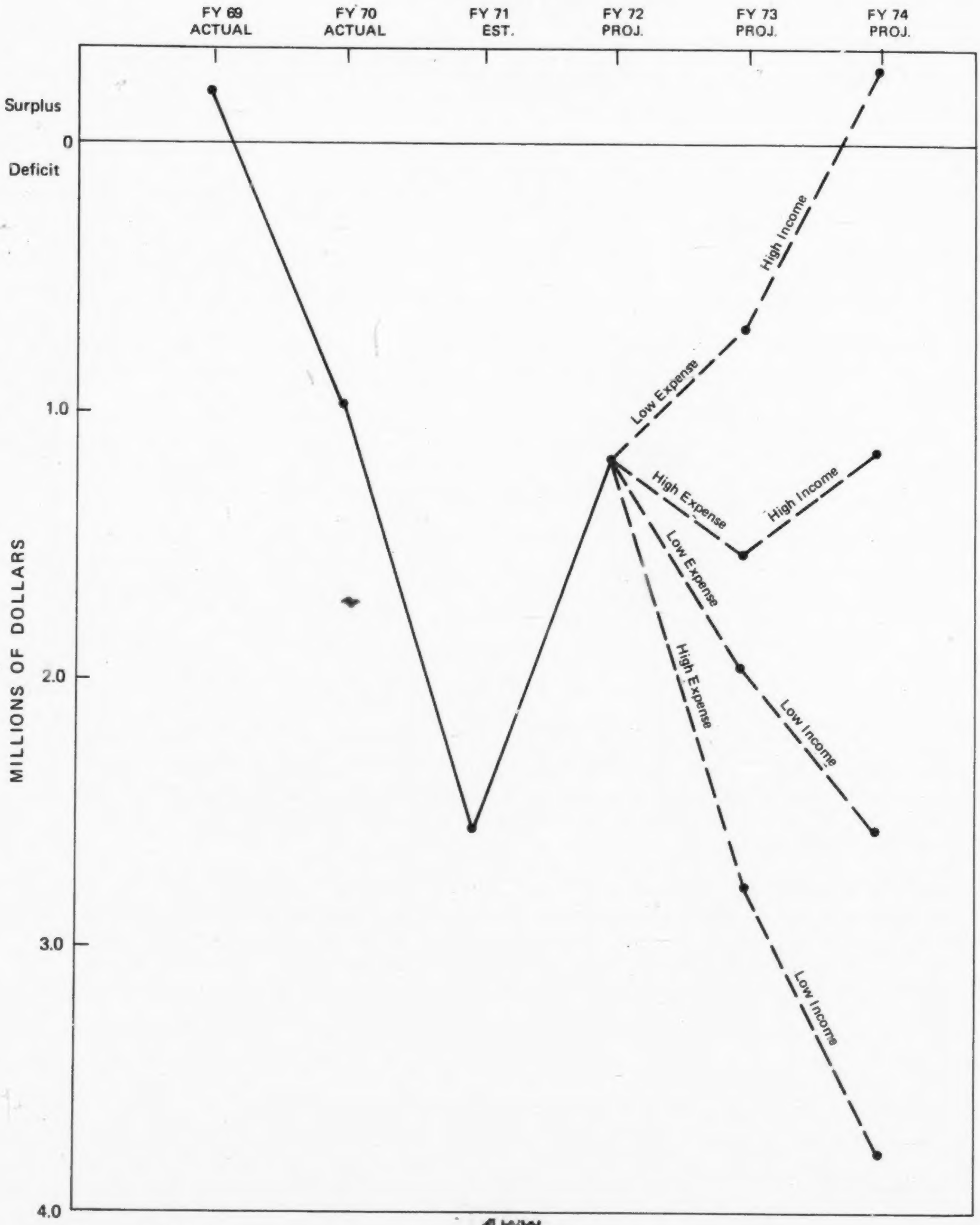
($ Thousands)

		FY69 Actual	FY70 Actual	FY71 Budget	FY72	FY73	FY74
I.	Higher Income	72,887	76,481	76,109	76,614	81,633	87,185
	Higher Expense	72,805	77,466	78,665	77,795	83,174	88,325
	Surplus or (Deficit)	82	(985)	(2,556)	(1,181)	(1,541)	(1,140)
II.	Lower Income	72,887	76,481	76,109	76,614	77,668	78,826
	Lower Expense	72,805	77,466	78,665	77,795	79,619	81,381
	Surplus (or Deficit)	82	(985)	(2,556)	(1,181)	(1,951)	(2,555)
III.	Higher Income	72,887	76,481	76,109	76,614	81,633	87,185
	Lower Expense	72,805	77,466	78,665	77,795	82,359[1]	87,112[1]
	Surplus or (Deficit)	82	(985)	(2,556)	(1,181)	(726)	73
IV.	Lower Income	72,887	76,481	76,109	76,614	77,668	78,826
	Higher Expense	72,805	77,466	78,665	77,795	80,434[2]	82,594[2]
	Surplus or (Deficit)	82	(985)	(2,556)	(1,181)	(2,766)	(3,768)

[1] Higher Sponsored Project expenses, higher Graduate School expenses, and lower undergraduate scholarship expenses modified for higher tuition, included to match higher sponsored project income, higher Graduate School income and tuition, and higher undergraduate tuition. Lower expenses are increased by 2,740 in FY 73 and 5,731 in FY 74.

[2] Lower Sponsored Project expenses, lower Graduate School expenses, and higher undergraduate scholarship expenses modified for lower tuition, included to match lower Sponsored Project income, lower Graduate School income and tuition, and lower undergraduate tution. Higher expenses are reduced by 2,740 in FY 73 and 5,731 in FY 74.

FIGURE 2
Operating Budget Surpluses / Deficits
Alternative Projections
FY 73 & FY 74



Source, Table 4

(The reason for saying "one set of boundaries" is that neither the higher nor lower sets of assumptions represent really extreme cases. This is particularly true of the higher assumptions, as is evident from the fact that the rates of increase in both income and expenditures actually experienced at Princeton over a good part of the postwar period have been higher than our "higher" projections.)

The implications of these calculations for University policy-making cannot be determined without at least some sense of what our financial objectives should be over this period. On this important question there is full agreement among the members of the Priorities Committee, the President, and the special Budget Subcommittee of the Finance Committee of the Board of Trustees. We believe that every effort should be made to achieve a budget that is at least approximately in balance by FY 74.

While all of us would of course prefer to balance the budget even sooner, we recognize that certain kinds of savings can be achieved only over time (as activities are scaled down, suspended, or phased out), that the task of reducing expenditures must be discharged with care and precision and not by making precipitous decisions, and, finally, that trying to move too fast in the pursuit of a balanced budget for its own sake could require unacceptable sacrifices in terms of the long-term health of the University. These considerations could, under certain circumstances, make it undesirable to push for a balanced budget in FY 74, and we must reserve final judgment on this question until key assumptions can be tested and possible sources of savings explored in detail. We are convinced, however, that this is the right goal for planning purposes.

All of the available evidence suggests that the financial squeeze now being felt so acutely by most colleges and universities is attributable to deep-seated causes and cannot be expected to disappear of its own accord within a year or so. So far, Princeton has fared better than many other comparable universities, in part because we are fortunate in the size of our endowment and in the support of our alumni and other friends, and in part because we saw some of these problems coming sooner and have been acting accordingly. We continue to believe that, faced with serious long-term problems, it is better to respond directly and immediately than to allow a gradual deterioration which in turn will require even more drastic action later. The experiences of many universities, as well as other kinds of organizations, support this general proposition.

Development of a Provisional Plan for FY 73 and FY 74

Let us now look more carefully at our projections in light of the objective of achieving at least an approximately balanced budget in FY 74. It is obvious that this will be no easy task. The projections into FY 74, taken as a group, certainly suggest the strong possibility of a large deficit in that year, and we believe that to do better than this will require the adoption and execution of a plan that is restrictive in all important respects.

On the expenditure side of the budget, we see from Table 4 that the higher expense assumptions lead to a projected deficit in FY 74 of about $1.1 million even when combined with the higher income assumptions. When combined with the lower income assumptions they yield a projected deficit of nearly $3.8 million. Consequently, we conclude that the higher expenditure projections cannot be accepted. Nor does it appear as if minor modifications in the higher expense projections would be compatible with the objective of a balanced budget in FY 74. Thus, we believe that one major component of our provisional plan for FY 73 and FY 74 has to be acceptance of the lower expenditure assumptions.

Are the lower expenditure assumptions realistic? In general, they involve: (1) operating through FY 74 with no net increase in the number of faculty on general funds or in the number of supporting staff above the levels projected for FY 72 -- which are themselves lower, in almost all instances, than the numbers budgeted for the current year -- in spite of some further increase in the number of women undergraduates;

(2) holding all increases in operating expenses to 3 percent per year; and (3) accepting quite rigid controls on the amounts that can be spent for dining services, library purchases, the operation of the physical plant, and for student aid at undergraduate and graduate levels. While these are plainly tight constraints -- especially when applied over a three-year period -- we think it should be possible to adhere to them for this long provided that the necessity for them is understood within the University community and that we get at least some cooperation from the behavior of prices in the economy at large.

The next step in developing a provisional plan through FY 74 is to look again at income and attempt to determine which assumptions ought to be used. There is a great temptation simply to adopt the higher set of income assumptions in toto since we have already seen (cf. Section III of Table 4) that combining the lower expense and higher income projections leads to the expectation of a modest surplus in FY 74. This would be improper, however, in that it would involve basing our planning on a rather optimistic set of assumptions about income, most of which are outside our control and some of which may not be valid.

What we have done instead is construct a new set of assumptions which represent something of a middle ground between the lower and higher assumptions summarized in Appendix Table B-1. Specifically, we have: (1) taken the mid-point between the lower and higher assumptions for endowment income, tuition rates, and other income; (2) taken the lower assumption for other gifts and grants; and (3) taken the higher assumption for Annual Giving.

These new assumptions for income constitute the second main component of our provisional plan and they are listed on Table 5 along with their dollar implications and the dollar implications of the lower expenditure assumptions (after the modifications necessary to insure consistency with the new income numbers.) While it is very difficult to know, for example, whether Annual Giving will increase at a modest rate once again after having dropped last year, there are other assumptions which seem conservative, if anything (for example, the assumption that we shall succeed in replacing only 25 percent of the term grants which are about to end, and the assumption that sponsored research will now do no better than stay even in dollar terms after the phasing out of support for the Accelerator has been completed in FY 71). Thus, taken as a whole, we think that this new set of income projections represents a reasonable set of expectations.

The combination of these expenditure and income elements of the provisional plan implies a deficit of about $1.1 million in FY 73 and a deficit between $600,000 and $700,000 in FY 74 (see the top part of Table 5). The total expenditure element increases 3.6 percent between FY 72 and FY 73 and 3.4 percent between FY 73 and FY 74. As can be seen most clearly from the top part of Figure 3, this represents some resumption of rising costs after the sharp cuts in the base of the budget proposed for FY 72; but it also represents a rate of increase far below that characteristic of the previous decade or so (compare Table 3). The rate of growth of income implicit in the provisional plan is 3.8 percent between FY 72 and FY 73 and 3.9 percent between FY 73 and FY 74. Here too we are presuming some recovery but nothing like the rate of growth characteristic of the 1960's.[1/]

In showing a projected deficit of under $700,000 in FY 74, we have succeeded in continuing to move in the general direction of a

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[1/] To obtain a more complete impression of relative rates of change over different time periods, it is again useful to exclude direct expenditures for sponsored research (and associated income) from all of the calculations. When this is done, the rates of growth of expenditures and income implicit in this plan increase to 4.6 percent and 4.9 percent, respectively, for FY 72 to FY 73, and to 4.3 percent and 5.0 percent, respectively, for FY 73 to FY 74. The middle part of Figure 3 shows the expenditure and income figures after eliminating the substantial variations in sponsored research that have occurred over the last two or three years, and these lines show that excluding sponsored research removes a good part of the appearance of abrupt change in rates of growth between FY's 71 and 72, on the one hand, and FY's 73 and 74, on the other hand.

TABLE 5

Provisional Plan
Operating Budgets
FY 73 and FY 74
($ Thousands)

	FY69 Actual	FY70 Actual	FY71 Budget	Projections FY72	FY73	FY74
Income[*]	72,887	76,481	76,109	76,614	79,532	82,649
Expenses[**]	72,805	77,466	78,665	77,795	80,605	83,313
Surplus or (Deficit)	82	(985)	(2,556)	(1,181)	(1,073)	(664)
Net Savings from further (unspecified) reductions in program base					-150	-500
Adjusted Surplus or (Deficit)					(923)	(164)

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[*] Income Components:

1. Endowment: Midpoint between higher and lower projections for FY73 and FY74.
2. Tuition: Mid-point between increases in higher and lower projections for FY73 and FY74 (+$250 per year).
3. Sponsored Research: Mid-point between higher and lower projections in FY73 and FY74 (constant at FY72 level)
4. Annual Giving: Higher projection for FY73 and FY74 (+5% per year).
5. Other Gifts and Grants (private and U.S. Gov't): Lower projection for FY73 and FY74 (25% replacement).
6. Auxiliary Activities and Service Departments: Same as in both higher and lower projections.
7. Other (mainly income on current funds): Midpoint between higher and lower projections for FY73 and FY74.

[**] Expenditure Components:

All lower expenditure projections have been included except:

1. Sponsored Research: Mid-point between higher and lower projections for FY73 and FY74 (constant at FY72 level)
2. Graduate fellowships and undergraduate scholarships increased to allow for $250 per year tuition increases.

FIGURE 3
Provisional Plan
Operating Budget
FY 73 & FY 74

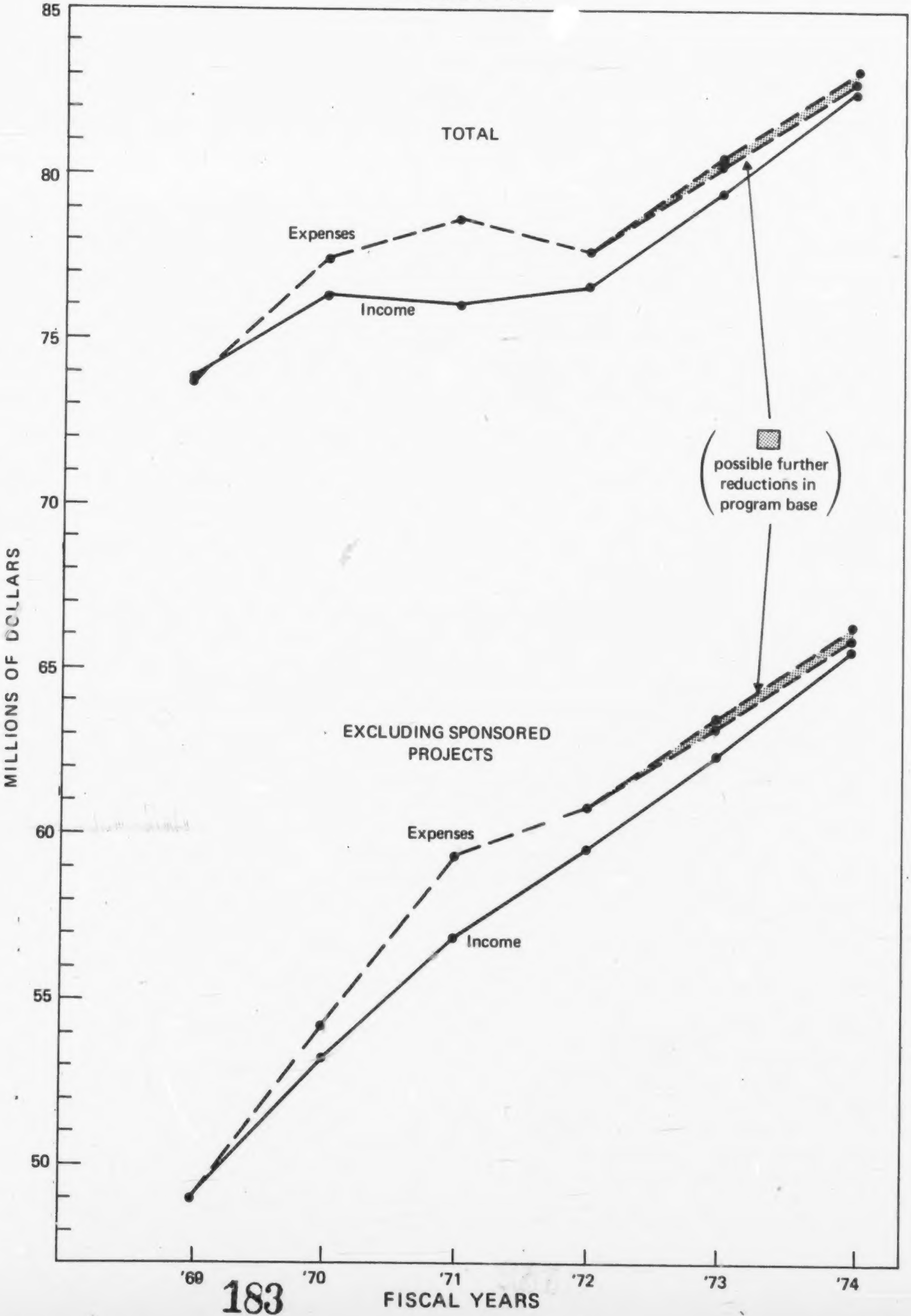
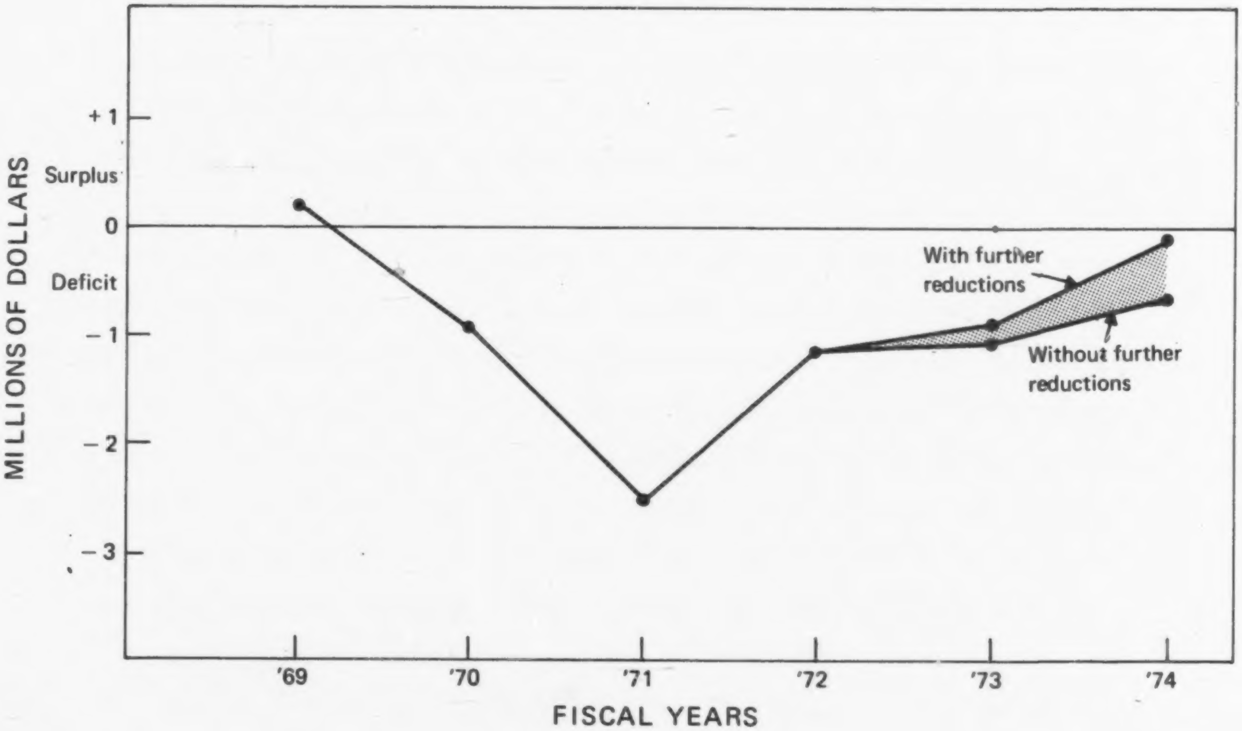


FIGURE 3 (Cont.)
Provisional Plan
FY 73 & FY 74



balanced budget, but we have not yet achieved our objective of projecting at least approximate balance in FY 74. To do this requires the addition of a third element to the provisional plan: the commitment to try to achieve a further net reduction in the program base of the budget of approximately half a million dollars by FY 74.

We recognize that this will be an extremely difficult undertaking. In reviewing budget requests for FY 72 we have already recommended both general and selective economies affecting every segment of the University, and it seems unlikely that subsequent efforts of the same kind can achieve significant additional savings without pushing some programs below the threshold at which they can operate effectively and without weakening the overall quality of the University. For reasons stated more fully in the next section, where we summarize our general principles, we believe strongly that further economies should be sought mainly through selective reductions in the program base, rather than through either across-the-board cuts in positions or continued withholding of normal salary increases. It has to be noted, however, that making selective reductions in the program base will be particularly difficult at Princeton because this University is already quite small and closely integrated. It does not contain many of the special schools and programs that are present in other universities. Finally, it must be understood that to achieve a further net reduction of $500, 000 in the program base will require considerably larger reductions in gross expenditures because some loss in income is almost certain to accompany any reduction in programs and thus to offset part of the apparent savings.

These difficulties notwithstanding, we are convinced that the effort must be made. Nor has our decision to move ahead with efforts to reduce the program base been motivated solely by a preoccupation with trying to make the particular set of expenditure and income figures on Table 5 add approximately to zero by FY 74. There are several other persuasive considerations.

First, there is a great deal of uncertainty buried beneath all of these calculations, and some aspects of our provisional plan for FY 72 may turn out worse than expected. Since it takes time to realize savings by scaling down, suspending, or phasing out programs, if we do not begin this job now, it will be impossible to compensate promptly enough for any unfavorable turn of events that may occur between now and FY 74.

It is also conceivable, of course, that things will turn out better than expected. If this occurs, however, it would be possible to restore some proposed cuts (as one of our colleagues says, "all decisions are permanent for the time being"). It would also be possible to use the savings achieved to build additional strength elsewhere. And, there are few universities, including Princeton, whose overall quality would not benefit from some reallocations of this kind.

The final -- and probably most important -- consideration concerns the outlook beyond 1974. The extent to which we may have succeeded in dampening the rate of increase in educational costs at Princeton over the period 1970 to 1974 should not lead anyone to think that such low rates of increase can continue for long without forcing major changes in the nature of the University.

A university such as Princeton remains very much a place in which faculty study, write, and work directly on almost an apprenticeship basis with advanced undergraduates and graduate students. In such a setting, cost per student is bound to rise appreciably over the long run, as salaries go up, even though the rate of increase may be slowed for short periods by vigorous economy drives and for the long period by some growth in enrollment and the attendant benefits of economies of scale (a subject which cannot be explored in this report but which the Bressler Commission on the Future of the College will be considering). Moreover, while we believe that the University can maintain itself over periods of perhaps three or four years on a largely standstill basis with regard to both the development of new fields and the strengthening of established areas, the momentum, the tone, the capacity to be a leader in higher education -- all these would be threatened by a prolonged moratorium on new developments.

For these reasons we remain convinced of two things. First, that the only satisfactory long-term solution to the financial problems of the major private universities lies in a return to something like the traditional rate of growth in income -- with this likely to happen only if new programs at the State and Federal levels are developed to complement efforts to attract more support from private sources. Second, since none of us can be sure when, or in what measure, the rate of growth of income will increase, the best interests of the University require that we do everything possible now to achieve selective reductions in the program base of the University. This must be done in order to increase the likelihood that, over the period beyond 1974, the departments and programs which we choose to emphasize will continue to be strong.

III. GENERAL PRINCIPLES UNDERLYING THE RECOMMENDATIONS FOR FY 72 AND BEYOND

The general principles we have had in mind in making recommendations for FY 72 are much the same in substance as the principles stated in last year's report of the Priorities Committee.

1. First, we continue to be determined to maintain the quality of Princeton as a university committed to providing excellent educational programs at the undergraduate and graduate levels in carefully selected fields.

Achieving this objective depends on many things, some of which are quantifiable and some of which are not. For example, we attach great importance to such intangibles as the loyalty of faculty, staff, students, and alumni, and things as amorphous as a sense of community, the general spirit of the place, a shared respect for ideas (even when, or especially when, they differ from one's own), and the overall intellectual, cultural, and social milieu.

No one knows all the elements that go to make up this kind of setting, or how they have to be mixed together. But we do know that certain basic ingredients -- as important as they are obvious -- must be present:

- An excellent faculty which includes outstanding younger persons as well as established scholars;
- Undergraduate and graduate student bodies which reflect diversity as well as excellence measured along many dimensions;
- An excellent library which is devoted not simply to collecting books and other materials but also to making them accessible;
- Basic tools of instruction and research including modern laboratory equipment and a high quality computing facility;

- Residential and dining arrangements which contribute to the educational purposes of the University;
- Adequate opportunities to participate in athletics and other extracurricular activities;
- Effective administrative and supporting services of all kinds, including an organization capable of finding and managing the financial resources on which all other activities depend.

Strong budgetary support for each of these elements can be regarded as a set of additional principles, derived from our basic commitment to quality. And this is how we do regard them. It must be emphasized, however, that this does not mean that any of these objectives can be regarded as absolutes or that they can be pursued without reference to overall limitations on available funds. Indeed, a basic theme of almost all discussions within the Priorities Committee has been: "When resources are scarce, principles collide." It is relatively easy to agree that strong support for each of these elements is essential; it is much harder to decide just how far each should be pushed vis-à-vis all the others. There are important interactions that have to be taken into account and the most fundamental questions inevitably involve making comparisons at the margins. We do not believe that there are inviolable general principles that can be invoked to derive a unique set of answers to these hard questions of judgment.

At this very general level, the best that we have been able to do is arrive at some rather simple conclusions concerning the desirable "hierarchy" of budget reductions. Our view has been that to protect the educational quality of the University we should proceed roughly as follows in recommending savings: (1) First, achieve all possible savings through improved efficiency -- providing at least the same quality of education and supporting services for less money; (2) Next, reduce administrative and supporting services as much as is consistent with effective management and use of University resources over the long run; (3) Then, examine the budgets of all academic departments and programs to see if it is possible to recommend reductions without causing significant decreases in educational quality; (4) Finally, consider further selective reductions in particular programs and activities and, in some cases, their complete suspension or termination. In practice, all of these steps have had to be pursued more or less simultaneously, but we believe that our final proposals for FY 72 are consistent with this ordering.

One aspect of our approach to the maintenance of quality deserves special emphasis. We do not favor attacking the long-run budget problems of the University by a continuing process of nibbling away at all departments and activities in the University. Nor do we favor attempting to meet the financial problems of the next few years by failing to keep pace with salary trends elsewhere. Beyond some point, a policy of across-the-board reductions in budgets, coupled with a policy of allowing salaries at Princeton to fall in relation to salaries at comparable universities, would surely impair the overall quality of the University. The erosion of quality might be gradual, but it would also be steady. We believe that this kind of general "leveling down" would be nothing short of disastrous, and we are determined to do all that we can to avoid it. Accordingly, the Priorities Committee is unanimously agreed on what is really a corollary to our first principle, but we think it is sufficiently important to list separately.

2. During this period of financial stringency, it is far better for the University to do a smaller number of things, and continue to do them very well, than to accept a general reduction in the overall quality of the educational program.

Acting on this general principle is extremely difficult and distasteful. Many of us who agree with it in the abstract may be reluctant to apply it to specific cases -- especially when it is evident that programs and activities under scrutiny are good and desirable in their own right and involve people who have made important contributions to the University. Nevertheless, the Committee remains convinced that this is the only responsible approach, and we are now attempting to determine where we believe that selective reductions should be considered.

In evaluating various programs, activities, and departments, we have developed certain criteria. They are stated below as they apply to graduate programs, but the same general framework applies to other areas also. The criteria are:

1. The quality of the faculty and of the program of graduate instruction, as they can be inferred from the opinion of other scholars in the field, the views of faculty members in related disciplines at Princeton, and any available evidence based on the opinions and experiences of graduate students.

2. The number and quality of students who have applied for graduate study at Princeton in the field, who have accepted admission, and who have completed the program.

3. The future of the whole field of study in terms of scientific and scholarly trends and in terms of national needs.

4. The national contribution of the Princeton graduate program, viewed in the context of the number of other strong programs, whether or not they are operating below their desirable size, and, in general, whether suspension of a program at Princeton would have a seriously adverse effect on opportunities for graduate study.

5. The comparative advantage of Princeton in the field -- that is, the ability of Princeton to make a particular contribution to the field in question because of special factors such as a long tradition of good work in the subject, unusually strong library resources, and so on.

6. The interactions between graduate study in the field in question and graduate work and scholarship in other fields at Princeton, and the likely effects of suspending work in the field on other programs and faculty members.

7. The interaction between graduate study in the field and the quality and variety of undergraduate offerings in the same field.

8. The costliness of work in the field, measured in terms of instructional costs, student support, library costs, space costs, and so on.

Of course, unambiguous answers to all of these questions may not be possible. Furthermore, the recommendations of the Committee must also take into account the possibilities for meeting commitments to students currently enrolled and a number of other practical considerations. Thus, we do not want to exaggerate the importance of any formal list of criteria, but we have thought that we should indicate the general nature of our approach to this difficult but important aspect of the work of the Committee.

3. Our third main principle is that in adjusting to straitened economic circumstances we must pay special attention to considerations of equity and fairness to individuals.

We have tried to implement this general principle in a variety of ways. Specifically, we have recommended that:

1. In general, larger percentage salary increases be given to groups within the University who are in the lower pay categories and thus are severely affected by increases in the cost of living (see the later discussion of salary policy);

2. Reductions in staff be accomplished, wherever feasible, by attrition rather than by termination;

3. Where terminations are unavoidable, proper arrangements be made regarding length of notice and severance pay;

4. In the case of undergraduates, we provide additional student aid in some form (including loans and work opportunities) to ensure that no student who is already enrolled and receiving aid will have to leave for financial reasons as a result of rising charges;

5. In the case of graduate students, the Dean of the Graduate School continue his efforts to relate awards of financial assistance at least in part to financial need;

6. In the case of certain classes of charges (especially rents on University housing and charges for dormitories and food services), efforts continue to be made to move as rapidly as practicable in the direction of reducing hidden subsidies received by some individuals and not others.

4. Our fourth general principle is that no recommendations should be made now which imply financial commitments into the future which are greater than can be accepted under present and foreseeable circumstances.

This is the same idea referred to in last year's report as the "falling-off-the-cliff principle." This principle has had considerably more effect on recommendations for FY 72 than it did on recommendations for FY 71 because of the progress made during the intervening year in the construction of forward plans for various programs and departments. In particular, this principle has had a significant effect on our recommendations concerning the library and student aid at both graduate and undergraduate levels.

5. Our fifth and last general principle is simply concern for the future health of the University as a whole.

Here too we are doing no more than restating a principle adopted last year and, if anything, giving it greater emphasis. Our concern for the future health of the University is already reflected in several other principles stated above -- most obviously the "falling-off-the-cliff" principle and the principle that it is better to be a bit smaller and still very good than to accept a steady if gradual decline in overall quality. It is also reflected in the importance we have attached to projections for FY 73 and FY 74. In addition, this concern has had a particularly strong effect on two recommendations: (1) That we not try to economize by reducing essential expenditures for repair and maintenance of buildings since such an approach would only lead to higher costs in the future; and (2) that we continue to invest significant sums of money in the development effort in order to increase the likelihood that we shall in fact find the outside support that is so necessary for the future welfare of the University.

IV. RECOMMENDATIONS FOR SPECIFIC AREAS: APPLICATIONS OF THE GENERAL PRINCIPLES

The purpose of this section is to discuss in some detail the recommendations of the Committee in fourteen specific areas. In each case we shall try to summarize the relevant information, bringing together cost and income figures when appropriate (for example, in dormitories and food services), and explain the likely effects of our proposals. Where possible, we shall also discuss the outlook for FY 73 and FY 74 as well as the Committee's proposals for FY 72.

Tuition Policy

The Priorities Committee recommends that tuition be increased by $300 for the academic year 1971-72 -- i.e., from $2,500 to $2,800 for undergraduates and from $2,600 to $2,900 for graduate students.

All of us who have been involved in the discussion of tuition policy regret very much the necessity to propose such a large increase. As in the past, we are recommending that the Bureau of Student Aid and the Graduate School Office be provided with the resources, including loan funds, necessary to prevent this increase from causing students now receiving financial aid to have to leave the University for financial reasons. (The details of these recommendations are discussed in the section dealing with student aid.) Still, we are painfully aware that an increase of $300 will require further sacrifices on the part of many students and parents who are already hard pressed financially.

The basic reason for the recommendation of a $300 increase is that the overall financial situation of the University requires it. As has been explained in previous sections, even with this increase and all of the other recommendations of the Committee, we are still forced to project a deficit of almost $1.2 million for FY 72.

In evaluating the fairness of the proposal regarding tuition, there are several kinds of comparisons that need to be made. First, the tuition charged by Princeton should be considered in relation to our educational expenditures per student. Second, we should compare the tuition charged by Princeton with tuition charged by other private colleges and universities, bearing in mind differences among institutions in educational expenditures per student.

At the undergraduate level, a detailed analysis of data for FY 69 revealed that a student at Princeton paying full tuition was still covering only 57 percent of his educational costs.[1] Of course, since FY 69 major efforts have been made to restrain increases in costs while, over the same period, tuition has increased markedly. As a result, there has been a trend (at Princeton and elsewhere) for students to pay a somewhat higher fraction of educational costs, a trend which we believe must be expected to continue, at least over the next two or three years. However, it is important not to exaggerate the change that has occurred. Rough calculations suggest that even when we allow for all of these recent developments, the percentage of educational costs (excluding expenditures for student aid) covered by the proposed tuition rate for FY 72 will still be between 60 and 65 percent.

At the graduate level, the difference between tuition and educational costs has always been far greater than at the undergraduate level, and this continues to be the case. Recent estimates suggest that graduate tuition represents only about 25 to 30 percent of the costs of graduate education excluding all fellowship payments. All calculations of this kind are approximate at best because of the conceptual problems raised by the interdependence among graduate education, research, and undergraduate teaching. Still, it is plain that the current differential in tuition of $100 understates the true difference by a considerable amount. In our recommendations for FY 72 we have preserved this modest differential as a way of continuing to remind everyone (including private and public sources of fellowships) that graduate education is very expensive. (In terms of the relative costs involved, a good case can be made for widening the differential in tuition rates substantially. However, competition among graduate schools for outstanding students prevents any one university from even considering such a policy on its own.)

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[1] Defined for this purpose as the direct and indirect costs of education at the undergraduate level exclusive of expenditures for scholarship aid. A good case can be made for including expenditures for scholarships on the grounds that spending money for this purpose is essential to the educational quality of the entire University through effects on the quality and diversity of the student body and through effects on faculty recruitment. If the costs of scholarships had been included, the percentage of educational costs covered by tuition would have been 48 percent rather than 57 percent.

A second perspective on tuition charges is provided by comparisons among private colleges and universities. While relatively few firm decisions for FY 72 have been announced to date, the information on undergraduate tuition which is available suggests that our recommendation of $2,800 will not be out of line. Most private colleges and universities with which Princeton competes most directly for students will be charging roughly the same tuition. Some will probably be about $100 to $200 below Princeton (Stanford, for example), some will be exactly the same (Harvard and Dartmouth), and some will be charging slightly more (Brown and probably Yale). Furthermore, in comparing tuition rates it is important to recognize that more time of faculty members in the professorial ranks is devoted to the average undergraduate at Princeton than to his or her counterpart at almost any other college or university.[1/]

[1/] The AAUP publishes data showing full-time faculty compensation per student equivalent at various colleges and universities, and Princeton consistently ranks very close to the top of this list. It is interesting to note that the institutions closest to Princeton in this respect tend to be colleges such as Wesleyan and Amherst rather than other universities. In 1969-70 (the last year for which figures are available), if we set the dollar figure for Princeton at 100 percent to facilitate comparisons, the corresponding figures for some other colleges and universities are: Amherst, 90 percent; Stanford, 61 percent; Harvard, 59 percent; and Pennsylvania, 54 percent. The most

In the discussion of last year's report of the Priorities Committee it was emphasized that the University had to plan on annual increases in tuition over the foreseeable future. This conclusion was publicized in the Daily Princetonian, it was mentioned in a newsletter sent to all parents, and it was included in the catalog. These steps were taken to avoid any possible misunderstanding, and in this same spirit we feel obliged to call attention to the fact that tuition increases ranging from $200 to $300 per year are part of the projections we have made for FY 73 and FY 74.

The members of the Committee are concerned that further increases of this magnitude may have the effect of polarizing the student body -- discouraging attendance by students from middle-income families who do not qualify for student aid but who also find it difficult to pay their own way. To date, there is little evidence that this kind of polarization has in fact occurred here. However, it must be added that we lack good information on an important dimension of the problem: namely, effects on the applicant pool itself.

This potential problem is, of course, a very general one, and is by no means confined to Princeton. What will happen in the future in this respect depends mainly on: (1) the willingness of students in general, and especially students from low-and middle-income families, to borrow substantially -- either through conventional loan programs or through some form of contingent repayment plan;[1] (2) tuition policies at colleges and universities receiving much of their income in the form of appropriations from State and local governments; and (3) the extent to which Federal, State, and local governments will assist students from low- and middle-income families who want to attend private institutions.

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recent year for which data are available for Yale is 1968-69; in that year faculty compensation per student at Yale was 86 percent of faculty compensation per student at Princeton. These figures are subject to all kinds of qualifications (related to coverage of professional schools, use made of graduate teaching assistants, definitions of full-time equivalents, and so on). Still, they do support the basic point made in the text concerning the favorable faculty/student ratio at Princeton.

[1] Discussed below in the section on student aid at the graduate level.

Dormitories and Food Services

Of all the topics considered by the Priorities Committee this year, none has been studied in more detail than dormitories and food services. In FY 69 undergraduate dormitories and dining services ran a deficit of $134,000; in FY 70 the deficit was $353,000 (more than one-third of the total University deficit); and the deficit projected for the current year is approximately $260,000.[1]

As a result of this situation, and in view of the complex questions of policy involved, last year's Priorities Committee recommended strongly that a detailed study be made of the economics of dormitories and dining services. Such a study was started last spring and completed this fall by Miss Mary Procter and Mr. James Mnookin. It is included with this report as Appendix D, and much of the discussion in this section is based on it. In particular, the special study contains an intensive analysis of the factors responsible for rising dining costs in recent years (based on an examination of changes in participation rates and in cost per meal at individual dining halls), a careful analysis of the allocation of indirect costs to this activity, two sets of projections for dining costs through FY 74, and a detailed assessment of the educational and financial implications of various policy choices open to us.

Objectives. Our starting point in considering specific recommendations was a principle adopted last year by the Priorities Committee: that every effort must be made to eliminate the deficit for dormitories and food services as soon as possible. Indeed, in light of the financial situation in which the University finds itself, and the attendant need to recommend reductions in other important activities and programs, this year's Priorities Committee has felt even more strongly than last year's Committee that the budget for this department should be brought into balance.

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[1] The Graduate College is also projected to operate at a deficit in the current year, the figure being about $38,000. We concentrate in this section on undergraduate dormitories and dining services because the deficit for the Graduate College is considered part of the overall Graduate School deficit and is discussed below.

This conclusion has been reinforced by the feeling of many members of the Committee that continued deficits are bad from the standpoint of equity as well as from the standpoint of overall finances. It is important to remember that not all students live in University housing and that a great many eat their meals outside the University dining system (either in clubs or as independents). Moreover, there is an efficiency consideration as well. Costs are likely to be kept under better control if it is known by everyone that rising expenditures mean rising charges.

Dormitories and food services are self-supporting at most colleges and universities -- an outcome required by law in a number of state and city institutions -- and, for all of the reasons given above, we are convinced that Princeton must move in this direction. At the same time, we also wish to identify an important set of related activities to which this general principle is not meant to apply: the educational programs carried out in the upperclass colleges and dining halls.

The costs of these educational activities, including providing support for Masters and Tutors, seem to us to be a proper charge on the general budget of the University, and all such costs have been excluded from the calculations made by Procter and Mnookin. Indeed, we have concluded that, in spite of the overall budget situation, some modest increases in expenditures must be made for these purposes in FY 72 if we are to expect the Masters and others involved to contribute so much of their own time and energy. In our judgment, these programs are making important contributions to the general intellectual and cultural life of the University community and they deserve adequate support.

In attempting to translate the general commitment to a self-supporting dormitory and dining system into specific recommendations for FY 72 and subsequent years, we began by considering the cost projections contained in the Procter-Mnookin study. For planning purposes we adopted the lower set of estimates, in large part because the Food Services Department believes it can work within the implied constraints, but also because we thought it important that our Committee recommend the same kinds of stringent limitations on expenditures in this area that we are recommending elsewhere. We recognize that there is some possibility that events over which the University has no control (especially trends in food prices) may undo these projections, but we believe that this is a risk that must be assumed, at least for the time being.

Having adopted a particular set of expenditure projections, we next considered two ways of making income match expenditures: (1) raising the rates charged for dormitories and food services; and (2) instituting a variety of structural changes in the system.

Pricing. With regard to charges, we have recommended that the University plan on a $60 per year increase in basic board contracts[1] and a $50 per year increase in room rents for each of the next three years. The Procter-Mnookin analysis suggests that these recommendations, combined with the other changes noted below, should result in eliminating the deficit within two to three years. Eliminating the deficit in one year would have required increases for FY 72 almost twice as large as those proposed, and we felt that this would have been too much of a jump for one year in light of the large increase in tuition that is also being recommended. Indeed, for all of the reasons mentioned in our discussions of tuition policy, we are very concerned about the extra burden on students and their parents implied by the recommendation now being made; but we see no other way to proceed if we are to bring the deficit under control.

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[1] This recommendation applies to 14- and 20-meal contracts. We recommend increases of $40 per year in 7-meal contracts (dinner only).

Unlike last year, we are not proposing differential rates of increase for Commons as contrasted with the upperclass colleges and halls. The most recent data suggest that the current deficit per student is about the same in the two sets of facilities, and we see no reason to believe that the differences in amenities are not already reflected in the existing price differential. The Committee also believes that the upperclass University facilities should continue to be considered elements of a common system and that a single set of uniform charges should exist amongst them. It would make no sense in terms of either equity or economic efficiency to establish different charges at different colleges or halls because of differences in costs resulting from architectural characteristics or other factors unrelated to amenities over which the present members have little if any control.

Structural Changes. Under the broad rubric of changes in the structure of the dining system, we are recommending, first of all, that the University discontinue its policy of including meals served during Freshman Week, intersession, and spring vacation in the basic board contracts. Since the majority of students do not eat these meals, and since those who do eat them are subsidized by all others, the Committee believes that fairness dictates charging separately for these meals. Approximately $40, 000 is involved, and it seems better to proceed in this fashion than to raise the rates charged everyone by some additional amount.

The Committee has also recommended that the University cease to operate Terrace as an upperclass dining hall. The arguments for and against this move are enumerated in the Procter-Mnookin report and need not be repeated in full here. In brief, while recognizing that closing Terrace would deprive present and prospective members of a facility which they enjoy,[1] the Committee has concluded that the deficit per student at Terrace is so high in comparison with the combined results for the other upperclass colleges and halls that present arrangements are difficult to justify. Even if Terrace's membership were to increase from its present level (81 members) to full capacity (approximately 100), it could not be self-sustaining over any period of time. Furthermore, there is no reason to expect this situation to improve since the essence of the problem is the small scale of Terrace.

In an effort to be fair to the present junior members of Terrace, the Committee recommended that it be allowed to operate for one more year if it could meet certain requirements. These included an increase of Terrace's membership to at least 100 and, after allowing for increases in board rates, a reduction of Terrace's deficit to no more than $15,000. This would still involve a deficit per student significantly higher than that anticipated in the rest of the college system, but we thought that this option should at least be made available to the present membership. After careful thought and consideration, the members of Terrace decided that these requirements could not be met and that they should try to operate Terrace as a private club next year.

In reaching its recommendation regarding Terrace, the Committee consulted with the Dean of Students. The likely effects of closing Terrace on the overall set of dining opportunities for upperclassmen were discussed at length, and the recommendation to cease operating Terrace as a University facility was made only after we had concluded that, for the foreseeable future, there would be room in other University-sponsored colleges and halls for all upperclass students who wished to join them.

Other Food Service Operations. While we have concentrated much of our attention so far this year on undergraduate dormitories and dining, we believe that other elements of food services must be examined with equal care.

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[1] There is some possibility that Terrace will reopen as a private club that nevertheless pursues a non-selective membership policy. However, this certainly cannot be assumed, and no such assumption has been made by the Committee in discussing the situation at Terrace.

In the case of the cafeterias, we recommend that the deficits experienced in FY 70 be reduced as rapidly as possible by: (1) increasing prices and changing them more frequently in response to changes in costs; and (2) giving serious consideration either to closing certain cafeterias which seem to have chronic economic problems (New South and Forrestal) or making much more use of vending machines.

Prospect Association poses unusually complicated issues because it serves a great many functions in the University beyond the provision of dining services, and efforts are still under way to determine appropriate methods of allocating all of the different kinds of costs that are involved. This year the Managing Board of Prospect has increased luncheon prices significantly and as a result has met the financial goal set when it was established -- namely, to generate income sufficient at least to cover all incremental costs. However, many of us wish it could cover a higher proportion of its total costs. The difficulty is in knowing how this can be done. In considering the possibility of further price increases, it has to be recognized that this might serve only to make matters worse rather than better by discouraging many people from eating there. Also, it is important to bear in mind the original objective of Prospect: to provide one attractive place on the campus where all members of the faculty and staff could meet informally, get to know one another, and in this way provide more of that sense of community that is so important, especially at the present time. Consideration is now being given to other possible ways of improving the financial situation of Prospect, including use by more groups on weekends, and our Committee strongly supports such efforts.

Faculty and Staff Housing

The Committee's recommendations for rent increases for faculty and staff housing follow generally the guidelines set down by the President two years ago (after consultation with a faculty advisory group and representatives of the administrative staff). These guidelines, which provided for a gradual reduction in the subsidy received by tenants, were also supported by the Priorities Committee last year. For FY 72, we believe that adherence to them requires: first, an across-the-board rent increase of 10 percent; and, in addition, selective rent increases in the case of a small number of rental units which are conspicuously underpriced in comparison with others. The specific increases would be based on a recently-completed "equalization" study, which took into account a multitude of factors -- number and size of rooms, location, and so on. Full equalization of rentals in one year would work a very considerable hardship on those affected, and our recommendations contemplate that the process will take three years to complete.

In making these recommendations, we are again moved, as in the case of dormitories and food services, partly by considerations of equity and partly by considerations of economy and efficiency.

On equity grounds, we feel that it is hard to justify providing a considerable subsidy of this type to some members of the University community and not to others. To be sure, the University gains from having a faculty and staff who live in fairly close proximity to the campus. But there is not enough rental housing available for all those who would elect to take advantage of it. And the subsidy is substantial, even when no return is imputed on the University's capital investment in such housing.

On the side of economy, we have given recognition not only to the overall financial situation, but to the increasing costs of operating the rental housing units themselves. The "normal" inflationary increases in expenses have been aggravated by trends in two particular categories: (1) Tax rates have been increasing at a compounded rate of about 9 percent annually for the past four years; and (2) Union wage scales in the construction industry (which affect the prices we must pay for outside contracted services) rose about 14 percent last year, and more recent negotiated wage packages have provided for first-year increases of as much as 20 percent.

Largely for these reasons, we expect that the rental income from faculty and staff housing in FY 72 will still fall considerably short of the direct expenses (including debt service of approximately $180,000 for Stanworth, Prospect Apartments, and Hibben-Magie), let alone cover any of the indirect costs. New policies are being considered to reduce operating costs by discouraging turnover, but it must be recognized that taxes and debt service together (making no allowance for the costs of contributed capital) absorb half of all rental income.

We wish that it were possible to avoid recommending rent increases of this size, especially in a year when it has also been necessary to recommend an austere policy regarding salary increases. Despite the fact that the rentals -- even after the increases -- will be below commercial rents in the Princeton area for comparable housing, we recognize that a degree of hardship will ensue for many families. We believe, however, that over the long run the right general policy is to reduce the deficit on University housing and to improve the real economic position of all members of the faculty and staff through larger salary increases than otherwise would be possible.

Faculty Manning

The faculty of a university constitutes its most basic element, and the faculty salary budget is the largest single item of expense. Moreover, the size and distribution of the faculty have a significant influence on other costs, such as supporting staff, buildings, and library.

Because Princeton's faculty is the core of the University, continuing care needs to be taken at a time of tight budgeting not to lose out in the competition for the best teacher-scholars. The building and maintaining of a high quality faculty constitutes a long-term investment that could be seriously impaired by the imposition of arbitrary cuts.

In considering faculty manning for FY 72, our Committee relied heavily on a detailed analysis, department by department, prepared in the Office of the Dean of the Faculty. Manning requirements were developed using data for recent years covering faculty size and student enrollments. Detailed enrollment projections were made for each department and estimates of faculty course contact hours were developed. In addition, consideration was given to the need for faculty to fill gaps in each department's coverage of its field. The faculty manning request of each department was then modified or adjusted to fit the projected needs. In this review process, the President, the Provost, the Dean of the Graduate School, and the Dean of the College participated along with the Dean of the Faculty and the Assistant Dean. The objective was to make sure that, in strictly limiting and reducing faculty costs, the quality of the faculty in a department and its teaching program were not seriously injured. The results of this review process were then presented to the Priorities Committee.

Recommendations for FY 72. During the 1960's, the faculty as a whole increased in size some 3 or 4 percent per year. From FY 71 to FY 72, however, the Princeton faculty (exclusive of graduate students teaching as Assistants in Instruction) is expected to decline modestly in size. The actual size of the reduction will depend on the number of resignations in FY 71, the approved openings not filled in FY 72 and other factors. The following table summarizes the Committee's recommendations for faculty manning for FY 72.

Faculty Manning Budget

	FY 71 Budget	FY 72 Recommendation	Difference
Total Faculty			
Full-Time Equivalents	691.94	674.35	-17.59
Budget (excluding salary increases)	$11,088,837	$10,947,017	-$141,820
Faculty on Teaching Budget			
Full-Time Equivalents	595.12	593.93	- 1.19
Budget (excluding salary increases)	$9,510,924	$9,568,778	+$57,854

Total faculty full-time equivalents in the above table include the faculty on leave without pay and the portions of faculty salaries charged to sponsored research projects. Total faculty salaries include not only salaries for teaching but also salaries paid by sponsored research and the regular salaries of faculty on leave without pay. Faculty teaching salaries in the above table include only faculty on general funds, University restricted funds, and leaves with pay. All dollar figures for FY 72 exclude salary increases for continuing personnel.

The table seems to indicate that the number of full-time equivalents on the teaching budget projected for FY 72 is only slightly below the budgeted figure for FY 71, and that the total dollar figure is $58,000 above FY 71. However, the figures for FY 72 are too high because they do not allow for further transfers from the teaching budget as faculty obtain outside support for leaves of absence. In addition, projected expansions in the teaching budgets of the Woodrow Wilson School and the Philosophy Department, which will be charged to restricted funds, account for between 6 and 7 FTE's and about $140,000. Also, in the case of a few departments, Statistics especially, previous commitments to rebuild or develop a department or program are being carried out. For most other departments considered as a group, the total faculty FTE's on the teaching budget will be below the figure for FY 71; for each of a dozen departments, the FTE figure for FY 72 will be slightly below the corresponding figure for FY 70. Thus, our recommendations regarding faculty size, combined with projected increases in enrollment, imply a modest increase in the student-faculty ratio.

Departments will adjust to faculty manning limitations by such means as offering fewer courses, offering more courses only in alternate years, enlarging precepts and classes, eliminating courses that attract small enrollments, and increasing slightly hours taught by Assistants in Instruction. The Dean of the Faculty and the Dean of the Graduate School have reviewed each department's graduate program with the department chairman and Graduate School representative and, as a result, the number of graduate courses to be offered in academic year 1971-72 has been reduced by more than 50 (8 percent) from the 1970-71 total. By a similar process, limits are being set on course offerings for 1971-72 at the undergraduate level. In addition, as the number of undergraduate students expands and the number of graduate students contracts, teaching hours will be shifted from the graduate to the undergraduate program, thereby resulting in some saving in teaching costs per student.

In considering the faculty manning budget, the Committee has also been concerned with the very high costs of the present leave of absence program. Among major universities Princeton has what is probably the most expensive program of this kind: in FY 70 over $800,000 was spent on leaves of absence with pay.

One definite recommendation has been made by the Committee on the basis of a presentation by the Dean of the Faculty. We have recommended that the policy of guaranteeing a paid leave of absence of one term during each three-year appointment to all assistant professors in the humanities and social sciences be modified to apply only to the first three-year appointment. Assistant professors on second three-year appointments would continue to be eligible for bicentennial preceptorships; moreover, under the new proposal presented by the Dean of the Faculty, they would also be eligible to compete for the regular leaves of absence available at present only to the tenure faculty in each department. Thus, it should be possible to continue to meet the needs of those individuals with particularly good cases for leaves of absence during their second three-year appointment as assistant professors while reducing somewhat the overall cost of the leave program.

The discussion of this element of the leave of absence program convinced members of the Committee that there are also other aspects of the current program that should be reviewed. The Dean of the Faculty has now undertaken such an investigation and will make a further report to the Priorities Committee after he has completed his study and after he has consulted with the Faculty's Advisory Committee on Policy.

Our Committee remains convinced of the need to make substantial provision for leaves of absence, and we believe that policies regarding leaves of absence should continue to be related to policies regarding the nature and amount of teaching expected of faculty members. At the same time, there are reasons to believe that the present leave program for tenure faculty, based on departmental quotas established some years ago, may no longer be entirely equitable or effective as it operates in practice. It is our hope that the Dean of the Faculty and the Faculty Advisory Committee on Policy will be able to propose adjustments in present arrangements which will enable the University to make more effective use of resources devoted to this purpose and which will also permit at least modest savings.

Outlook for the Future. The basic projections for FY 73 and FY 74 included in the provisional plan described in Section II of this report provide that there will be no net change in the size of the faculty over this period apart from additions permitted by the acquisition of new funds intended specifically for this purpose. However, it must also be noted that the need to achieve further reductions in the base of the budget is certain to require some reductions in the size of the faculty.

In its recommendations with respect to faculty manning for FY 72, the Committee has been particularly conscious of the need to preserve the areas of excellence in which Princeton has a comparative advantage. Thus, we have avoided recommending across-the-board cuts. Similarly, in considering the need to make further reductions we intend to be selective. The arguments in favor of this general approach are described at length in Section III of the report. They certainly apply to the faculty, since some of our departments (including ones which are very distinguished) are now quite small and could be affected very adversely by even the loss of one faculty position. Proceeding in this manner will require the development of detailed manning plans, and the Dean of the Faculty expects to work closely with departmental chairmen in their preparation.

Two final comments concerning the future: First, in limiting the overall size of the faculty we are determined not to allow the percentage of tenured faculty to become too great, for that would impede the continuing influx of younger scholars and of the new ideas and the challenges to established practices which they bring with them. Second, the work of the Bressler Commission on the Future of the College could well have a pronounced effect on the characteristics, distribution, and teaching activities of the faculty, and our Committee intends to follow its progress and to contribute to its work in any ways that we can.

Special Academic Programs

The Committee recommends a FY 72 budget for the Special Academic Programs of $9,708,000, a reduction of $1,900,000 from the FY 71 base level. We hasten to point out, however, that this substantial reduction is not primarily due to specific proposals of ours, and that it does not, in the main, help to reduce the deficit. For nearly 95 percent of the expenditures of these programs are underwritten by sponsored research and other restricted funds. These include the Plasma Physics Laboratory, the Princeton-Pennsylvania Accelerator, and a variety of smaller activities. Approximately $1.6 million of the total reduction of $1.9 million between FY 71 and FY 72 is attributable to a single development: the phasing out of support for the Accelerator.

The Committee does recommend, however, two specific actions which would reduce the deficit by almost $50,000 in FY 72 alone.

First, we propose the discontinuance of the Office of Survey Research and Statistical Studies. The office has provided useful assistance to students and faculty in the conduct of their research, especially in the humanities and social science disciplines, but the impending retirement of its director -- as well as the current budget squeeze - provides an appropriate occasion to review its status. On balance, we feel that at this time the University must limit itself to providing keypunching service at the computer center (to which the Survey Research keypunch staff would be transferred) and to attempting to meet instructional needs through increased efforts in this area by the Statistics Department and in other ways.

Second, we recommend that the summer intern program conducted by the Office of Teacher Preparation and Placement be discontinued unless outside funds can be found to support it. This valuable program -- which brings together a sizable group of teacher interns for six weeks of intensive summer study -- was begun in FY 70 with funds provided by the U. S. Office of Education. When federal funding was not continued for a second year, the University assumed most of the expenses in order to maintain the momentum of the program while other funding was sought. Since it now seems unlikely that such outside funding will be forthcoming, we have had to conclude that the University has no real alternative but to suspend this program, particularly in light of the retrenchment we are proposing in so many other areas. We very much regret having to make this recommendation, since we are convinced that the summer intern program has been a most useful model for teacher certification as well as a benefit to individual students. We hope that either the Office of Education or some other sponsor will permit the program to be resumed in future years. Unfortunately, however, the present outlook is not encouraging in this regard.

Library

The Priorities Committee recommends a library budget (excluding salary increases) of $3,659,000 in FY 72. This amount is the same as the library budget for FY 71.

Our recommendation of a constant dollar budget for next year is made in the face of the fact that the rate of price increase for books and journals is about 8 to 10 percent per year. Moreover, the total number of books and journals published each year increases steadily. In most fields of science, for example, the number of publications has been doubling every ten years. Furthermore, a constant dollar budget for FY 72 contrasts sharply with the average annual increase for our library of 15 percent over the past two years in the total dollars devoted to acquisitions. Finally, the Committee notes that in comparison to other libraries, our library now ranks 19th in size and 28th in the amount spent for acquisitions. In 1906 Princeton's library was the 6th largest in the nation.

All of the above factors suggest that our recommendation for FY 72 comes close to beginning an erosion in the quality of the library, and therefore in the future excellence of the University. Still, with the exception of undergraduate and graduate financial aid, the library is the only area in which the Committee does not recommend for FY 72 a budget base which is below the FY 71 level. We feel, therefore, that our recommendation concerning the library budget must be seen in the context of the reductions being proposed in other areas during a period of real austerity.

Also, the Committee believes that some adjustments around the edges of the library budget are possible. In particular, acquisitions of duplicate copies of books and periodicals can be curtailed somewhat. The Committee also notes that the University Librarian is already taking other steps that should lead to modest savings. Among these are (1) issuing more stringent guidelines for acquisitions, (2) canceling some standing orders with publishers, and (3) using printed rather than engraved bookplates. However, it should be understood that these sorts of savings will not be sufficient to avoid some real reduction in either acquisitions, staffing, or both next year.

Possible Tradeoffs. The Committee believes that the Librarian should have wide latitude in adjusting his operations within the severely limited budget total we have proposed for FY 72. It seems evident, however, that there are certain tradeoffs possible, and that judgments regarding them will have to be made in the process of reaching the least damaging compromises.

Surely the most basic choice is between the provision of current services to the University community and the acquisition of new books and journals. On the one hand, a constant dollar level of acquisitions means a reduction in our coverage of at least some fields, owing to price increases and the accelerating rate of book production. On the other hand, reductions in staff must be considered in the light of such considerations as the fact that there is already an average delay of about six months in preparing acquisitions for the shelves.

Secondly, in examining our acquisition policies, choices seem possible between across-the-board cutbacks and selective (but much deeper) reductions in our acquisitions for certain collections. Of course, selective reductions would have to be related closely to judgments made elsewhere in the University concerning the curtailment or suspension of particular programs. In any case, careful thought should be given, we feel, to the wisdom of continuing to try to maintain strong collections in as many areas as we have now, even separate and apart from future decisions on the destiny of certain academic programs. To take a more selective approach, emphasizing areas in which Princeton is unusually strong, would be entirely consistent with our general belief that it is far better to do a smaller number of things well than to reduce quality overall. Finally, the Committee notes that there is some evidence that, in general, faculty in the humanities accord a higher priority to the availability of library resources in their disciplines than do at least some departments in the natural sciences and engineering. Of course, there are important differences in this respect among faculty members in a single discipline as well as between fields. Still, we believe that the Librarian should consider overall differences among fields in relative priorities as he formulates detailed policies and operating procedures for FY 72.

Third, a tradeoff presents itself even within a particular collection, namely, the balance between making retrospective acquisitions and keeping up -- or, more accurately in most cases, not falling so far behind -- with the acquisition of newly-published materials. This question really calls for judgments tailored to the needs of each specific discipline.

Finally, there is a tradeoff between the convenience of having library resources readily at hand here at Princeton, and the savings which may be achieved through cooperative arrangements among nearby institutions including Rutgers. For example, each University might commit itself to maintain complete files of certain highly specialized journals, thus obviating the need for other nearby institutions to do so. The Committee strongly supports efforts to achieve cost savings through such sharing arrangements.

Action On Other Suggestions. Among the many suggestions which members of the Committee have received concerning possible economies are several which seem not to promise cost savings -- at least in the short run -- but which nevertheless deserve brief comment.

First, as a number of people have pointed out, there have indeed been great strides in recent years in library technology. However, the evidence to date suggests that the real value of such developments -- so far at any rate -- lies in the much more effective access they provide to the products of the "information explosion" rather than in cost savings. In fact, many of these developments seem to require larger expenditures, and not just in the short run. In any event, our library has already been taking advantage of some of the recent developments and will be keeping close track of future possibilities.

Secondly, some have suggested that we adopt the Library of Congress cataloguing system. The Committee has not recommended this step because of the extremely high cost of implementation.

Finally, we have considered, but not endorsed, a suggestion that the fees charged outside users of our collections be increased significantly. Such an action would produce little additional income, would discourage some users unnecessarily, and might have a negative impact on fund raising.

Longer-Run Implications. Our provisional plan for FY 73 and FY 74 includes budget increases for the library in each year, but these increases are not nearly as large as those to which we have been accustomed in the recent past. It seems clear, therefore, that throughout this period and beyond, continuing attention must be given to the relative emphasis to be placed on acquisitions for various collections, and to the achievement of further savings through cooperative arrangements with other libraries and other approaches. It is no doubt true, however, that the financing problems of university libraries over the long run require national solutions.

Computer Center

The Priorities Committee recommends a budget for the computer center (excluding salary increases) of $2, 099, 000 in FY 72, a reduction of $185, 000 from the budget for FY 71.

The Committee recognizes the indispensability of a modern computer to excellent educational programs and high quality research. And Princeton's computer center -- with its 360/91 machine and remote terminals, and access to a time-sharing system -- provides the University with more than adequate computational resources.

The computer center does not, however, attract sufficient income from outside users or donors to cover its expenses. For the current fiscal year, nearly $500, 000 of general funds has been made available for support of the center -- part allotted to departments for the purchase of computer time, and part allocated directly to the center to defray the remainder of its deficit. Moreover, a three-year grant from the National Science Foundation (providing $400, 000 in FY 71) comes to an end this year and is not expected to be replaced. Finally, there is some uncertainty concerning the future of the large amount of income for computing ($600, 000 in FY 72) now being received from the Geophysical Fluid Dynamics Laboratory.

In view of the projected loss in computer center income for FY 72, the uncertainty with regard to future funding, and the overall financial situation, the Committee believes that the computer center's budget must be tightened for FY 72. In arriving at its recommendations, the Committee had the benefit of several alternative long-range plans developed by the director of the computer center. Acceptance of the budget reductions proposed by the Committee would probably mean some reduction in planned use of time-sharing services. Adoption of our recommendations also would undoubtedly result in some general loss of convenience because it implies fewer access consoles and longer job completion times. In addition, savings could be achieved by allowing several vacancies on the center's staff to remain unfilled. The net effect of our recommendations, after also allowing for fluctuations in outside income, would be to increase general funds support of the center next year by about $165, 000, thus offsetting in part the loss of the $400, 000 National Science Foundation grant.

The Committee has also considered the possible elimination of the one remote terminal whose income does not offset its expenses, namely the Aerospace and Mechanical Sciences (AMS) terminal at Forrestal. We do not recommend that the terminal be removed. However, we do think that a larger portion of the cost of the terminal should be borne by the AMS Department, and we have asked the director of the computer center to pursue this question with representatives of AMS.

In view of the Committee's recommendation elsewhere in this report that the Office of Survey Research and Statistical Studies be discontinued, we also propose that the keypunching staff of that office be transferred to the computer center, so that service may continue to be available.

Finally, the Committee has discussed at length a proposal to spend approximately $2. 3 million of University funds for purchase of a large increment to the memory of the 360/91 machine,which is being offered by the manufacturer for a limited time. Some of this cost would no doubt be recaptured through charges for computer services in future years, and the larger memory would have real scientific advantages for some people. However, considering the fact that present utilization of the machine is below capacity and that the outlook for future outside use is so uncertain, the Committee does not recommend this action unless special outside funds -- available only for this purpose -- can be secured.

Athletics

We recommend a budget for the Department of Athletics of $1, 220, 000 for FY 72, exclusive of salary increases. This proposal represents a reduction of $68, 000 from the base of the budget for FY 71 and a reduction of about $100, 000 from what the budget for FY 72 would have been had provision been made for normal increases in travel costs, and so on. All such increases in cost during FY 72 will have to be absorbed in athletics as in other departments in the University.

In reporting this recommendation, the Committee wishes to emphasize that its review of athletic programs is only in its first stage. This is truer of athletics than of most other areas for several reasons. In the first place, the issues -- and particularly the criteria which should be used in choosing among alternative possibilities for achieving further savings -- are far from self-evident. For example, net cost is surely not the only measure which should be employed in judging the wisdom of continuing a particular sport or team.

In the second place, many of our decisions affecting intercollegiate athletic programs will have a direct impact on other institutions, and their decisions will affect us in turn. Choices involving intercollegiate athletics, then, should only be made after full consultation among all of the affected universities. At the present time, the Ivy League presidents, deans, and athletic directors are in the midst of discussions concerning common steps that might be taken to achieve savings, and our Committee believes that this is a good development.

Finally, the Committee is determined to proceed just as deliberately in considering major issues relating to athletics as it has found it must in approaching major issues relating to academic programs. The two sets of programs are similar in certain respects: both have a considerable impact beyond the confines of the campus; both call for discussion with many interested groups -- and for the careful consideration of their views --

before important decisions are made; and both involve examining in detail a range of alternative ways of responding to budget limitations.

The Committee has also found that achievement of significant reductions in athletic programs is complicated by several other factors. In intercollegiate athletics, we are constrained somewhat by regulatory regional and national bodies. For example, in considering the possibility of eliminating freshman teams, and making freshmen eligible to participate at the junior varsity and varsity levels, we have found that regulations of the Eastern Collegiate Athletic Conference and the National Collegiate Athletic Association prohibit such a policy in certain sports. Another complicating factor is the multiple duties which are assumed by athletic coaches at Princeton. One coach may serve two different sports, in two different seasons, and in addition may teach in the physical education program. Thus, a reduction in one activity may not always result in staff reductions or significant expenditure savings, particularly in the short run.

Nevertheless, the Committee feels strongly that reductions in athletic programs must be made. We cannot justify continuing general funds expenditures at past levels at a time when virtually every other element of the University is curtailing programs and reducing expenses. Such reductions seem especially essential at a time when Princeton is faced with difficult decisions concerning the reduction or suspension of educational programs. Thus, we believe that some part of the further reduction in the program base required by our provisional plan must, in all likelihood, come from athletics. 1/

Before moving on to a discussion of the Committee's specific proposals for achieving savings in FY 72, we think it appropriate to make a final comment of a more far-reaching nature.

1/ Indeed, there has been some discussion within the Committee of the desirability of indicating an intention to achieve further savings in athletics by including in our recommendations for FY 72 an additional, if unspecified, reduction of $50,000 to $100,000. We have concluded, however, that we ought to avoid considering any such recommendation until after a detailed review of specific alternatives and consultations with the appropriate individuals.

One of the greatest strengths of Princeton's athletic program has been the fact that a very wide cross section of the campus community has found a place in it -- and not just the varsity athletes. Whatever economies may be found necessary, we do not believe that any Princeton student or member of the faculty or staff should be cut off from the opportunity to engage in some form of athletics or other healthful exercise.

Proposed Reductions for FY 72. The Committee's "first-stage" recommendations, if adopted, would require:

1. A reduction of pre-game training meal budgets.
2. Elimination of travel support for cheerleaders and the band for out-of-town football games.
3. Elimination of general funds support for team banquets.
4. Reduction of general security at games.
5. Elimination of selected intercollegiate contests, including a number involving extensive travel.

In addition, our current recommendations would also require some reductions which cannot be delineated specifically at this time. It seems most likely that these further reductions would involve elimination of certain teams at either the freshman or junior varsity level. But exact details must be the subject of the continuing discussions among the Ivy League presidents, deans, and athletic directors referred to above. We hope that these discussions will lead to savings for FY 72 even greater than those recommended in this report.

Athletics Income. The Committee has also discussed possibilities for increasing income to the Department of Athletics, and our recommendations would have the effect of achieving increases of more than $25,000 in FY 72, raising projected total income to $626,000. We believe that existing ticket prices (for the major sports, at least) are already as high as the competitive situation will allow and should not be increased in the immediate future. However, we recommend that the Department of Athletics increase existing fees for Athletic Yearly Ticket Books and that the price of books for faculty and staff members be set at the same level as for students.

Finally, we suggest that the Department institute user charges for faculty and staff members who use such facilities as Dillon Gym. Charges of this kind are common at most institutions, and we believe that those members of the University community who benefit from such facilities should be willing to pay a modest annual fee for their use.

Longer-Range Implications. All members of the Committee agree that the future scope and function of organized, intercollegiate athletics is a subject which deserves the most thoughtful consideration. On the one hand, there has been, here and elsewhere, a marked change in recent years in the attitudes of some members of the campus community towards athletics. At the same time, due regard must also be accorded the role that athletics has had at Princeton over a long period, what team competition still means to many members of the resident University community, and to the impact of change on our thousands of alumni and friends beyond the campus -- for some of whom athletics is a major link with the Princeton of today.

As we regard the budget projections through FY 74 discussed earlier in this report, however, it is hard to escape the conclusion that serious consideration must be given to the radical reduction or elimination of certain sports now included in our intercollegiate program. We can only re-emphasize our intention to proceed carefully in developing recommendations, and to seek out and take into account the views of all concerned groups.

Student Aid: Graduate Level

Student aid at the graduate level has presented the Committee with perhaps its most perplexing set of problems. Within the last two years there has been the sharpest shift in circumstances affecting American graduate schools that any of us can remember. First, there has been a rapid decrease in external sources of support for fellowships, with the number of Princeton graduate students holding outside awards dropping from 788 in FY 69 to 557 in the current year. Second, there has been a pronounced and widely publicized decline in job opportunities for students receiving doctoral degrees. These two factors, combined with the simultaneous worsening of the overall financial position of the University, have necessitated a serious re-examination of: (1) the size of the Princeton Graduate School; and (2) sources, forms, and patterns of support for graduate students.

Policies Adopted Last Year. In the main, the Committee's recommendations for FY 72 take us further in the same general direction as the policies adopted last year, and thus it seems best to begin with a brief review of recent developments. Because of both limited job opportunities and the scarcity of fellowship support, the decision was made last year to move away from the previously adopted plan to increase gradually the size of the Graduate School until it reached an enrollment of 1,700. Instead, it was decided to reduce the size of the entering class by just over 20 percent as the first step in a revised plan that assumed an enroll-target of about 1,400 for FY 72 and beyond.

With regard to the support of students, financial limitations led us to adopt a new arrangement whereby some entering students were offered combinations of fellowship support and loans, rather than just fellowship support as in the recent past. Of the 192 new students admitted to Ph. D. programs in the fall of 1971 with University awards, 79 received tuition grants plus $1,800 fellowships, 74 received packages consisting of tuition grants plus $900 fellowships and $900 loans, and the remaining 39 students received tuition grants and $1,800 loans. The effort to move toward support packages including loans was designed quite carefully as an experiment, the objectives being to assess the effects of this new pattern of support on our ability to attract good students and to learn more about the financial circumstances of graduate students in the arts and sciences, including their needs and their willingness to borrow.

We believe that the results are interesting and encouraging. For all students offered admission to the Graduate School (including those with outside fellowships awarded either directly to the student or through the University), the acceptance rate was 57 percent. Among all applicants offered loans as part of their package of support, the acceptance rate was 62 percent; and among the subgroup offered $1,800 loans but no fellowship support above the level of tuition,the acceptance rate was 52 percent. While data of this kind are notoriously difficult to interpret (results being affected in certain cases by prior knowledge of the circumstances under which particular students would come, by correlations between the quality of the student and the amount of fellowship aid offered, and so on), it certainly appears as if Princeton can attract students whom departments want to admit on the basis of support packages containing at least some loan component.

The other significant finding is that very nearly half (46 percent) of the entering students who were offered loans did not accept them. Again, we do not want to put too much emphasis on one set of results in one year for a rather small sample of students. But, it does seem clear that offering loans to students serves as a kind of "revealed preference" test of financial need. Whereas any student offered a fellowship is likely to take it, only those students who really need the money will take loans.

Issues for FY 72: Declining Outside Support and Enrollment Targets. In order to have as sound a basis as possible for making new recommendations, our Committee asked the Dean of the Graduate School to develop several alternative plans for FY 72 through FY 74 based on different assumptions concerning the amount of money the University might be able to provide. Underlying all of the alternative plans were estimates prepared by the Dean of likely changes in the number of graduate students who could be expected to receive major financial support from outside sources (including research assistantships), and these estimates are so important to an understanding of the problems of graduate education at Princeton that we reproduce them below along with some comparative figures for earlier years.

Number of Graduate Students Expected to be Supported from All Outside Sources (Including Ford Foundation 7-Year Grant)

FY69 Actual	FY 70 Actual	FY71 Actual	FY72 Projected	FY73 Projected	FY74 Projected
1,064	1,069	919	750	665	490

One way of responding to this situation would be for Princeton to reduce graduate enrollment accordingly. There are, however, three strong arguments against major, across-the-board reductions in size below the new target of 1,400. First, the direct effects on the quality of graduate offerings at Princeton -- and, indeed, on the quality of faculty research and undergraduate education as well -- could be severe. Most graduate programs at Princeton are already very small by almost any standard (with entering classes now limited to 21 in History, 10 in Biology, 19 in Chemical Engineering, and 5 in Germanic Languages and Literatures, to cite just four examples), and further reductions could push many departments below the threshold at which it is possible to maintain an active scholarly community sustained by interactions among students and faculty.

Second, the immediate economic effects on the University would be mixed at best. While reductions in the number of graduate students would put less pressure on funds for fellowship support, they could also serve to reduce tuition income without significant offsetting reductions in costs so long as graduate programs were maintained at all. Graduate course offerings are being tightly controlled, and in FY 72 they will be at or near the minimum in most departments.

Finally, from a national standpoint, we do not think it is sensible to react to decreasing job opportunities by reducing enrollments in graduate programs at all universities well below levels that are optimal from both educational and economic standpoints. The study of quality in graduate education just released by the American Council on Education shows that Princeton continues to be regarded as onc of the outstanding graduate schools in the nation in those fields in which we are engaged. When comparisons are made of those departments which we have in common with other major universities, only Berkeley, Harvard, and Yale equaled or exceeded the average ratings received by graduate programs at Princeton. These results indicate that Princeton enjoys a continuing opportunity to make important contributions to graduate education in the United States, and we do not believe that the national interest would be served by any substantial or general curtailment of our enrollment. If, nonetheless, some further reductions in overall size should prove to be unavoidable, we think that it would be better to make selective deletions of programs or parts of programs rather than to impose more across-the-board reductions. This is consistent with the general emphasis on quality and selectivity which is a major theme of this report.

Recommendations for FY 72. When the alternative plans developed by the Graduate School were examined by the Committee in the context of the desirability of avoiding further across-the-board reductions in enrollment, the dramatic reductions in outside support, and the general financial problems of the University, two conclusions emerged: first, we would have to expect more graduate students to pay a higher proportion of their own educational costs; and, second, larger increases in general funds would have to be allocated to graduate student support than to almost any other purpose in FY 72 nonetheless.

To begin with budget figures, we are proposing an increase in the contribution from endowment and general funds of $365, 000 (from a budgeted figure of $3, 068, 000 for FY 71 to $3, 433, 000 in FY 72[1]). This is a very large increase. However, careful examination of an alternative plan calling for lower expenditures convinced us that to recommend less than this sum would mean either reneging on earlier commitments made to current students or running major risks of preventing some departments from competing successfully for outstanding applicants.

Even this proposal requires substantial modifications in the packages of financial support that it will be possible to offer to entering students and thus entails some risk of losing good students. The effects will vary appreciably from department to department as a consequence of differences in the availability of national fellowships and restricted funds, and thus overall figures would be of dubious value. For departments with the fewest resources of their own, the Dean of the Graduate School expects that they will be able to offer "major support" consisting of $1, 800 fellowships plus tuition to about 30 percent of the entering class, $900 fellowships plus $900 loans plus tuition to about 25 percent, $1, 800 loans plus tuition to about 25 percent, and no support except some access to loan funds to the remaining 20 percent.

Two other aspects of our recommendations concerning student support should also be noted: (1) We are not proposing any increase in the basic stipend of $1,800 for University fellowships in spite of increases in rents and room and board charges (noted below) and in spite of other increases in the cost of living. The recommendation to hold this stipend constant is based largely on our feeling that it would be wrong to divert even more resources from students receiving less support in order to increase the amounts going to those receiving major support. Another important consideration is the desire to avoid contributing to a kind of "price war" in which universities bid against each other for a small number of students. (2) We are proposing modest increases in the stipends for graduate students serving as assistants in instruction in order to continue the effort to encourage many of the best students to do some teaching while they are here.

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[1] These numbers do not coincide with any numbers on Appendix Tables A-1 and A-2 because of substantial differences in the organization of the components. The figures for fellowships on Table A-2 are greater than the fellowship component of these figures because of the inclusion of postdoctoral fellows and visiting scholars.

At this point it must be acknowledged that the effects of this set of recommendations on graduate admissions are very difficult to predict. In particular, we do not know the extent to which it will be possible to attract well qualified students who are also able to pay their own way. Much depends on the policies followed by other graduate schools. At the graduate level, unlike the undergraduate level, there is no history of a common policy designed to discourage competitive bidding without reference to financial need. Princeton, in cooperation with a number of other universities, has been actively engaged for the last year and a half in efforts to develop common policies that would serve the general interest as well as the interests of our respective institutions. There now seems to be agreement that a means test of some kind should be developed so that the limited resources available will be used most effectively. As a step in this direction, Princeton (in company with several other universities) is requiring all applicants seeking admission for 1971-72 to submit a financial statement, and the Dean of the Graduate School intends to encourage efforts to relate financial awards to financial need. There is a limit, however, to the progress that any one or two institutions can make along these lines without the support of other institutions, and we shall have to wait and see what is possible in this regard.

Beyond FY 72. For reasons that are evident from the discussion of the University's overall financial situation in Section II of this report, we do not expect to be able to continue increasing support for graduate students from University sources at the extraordinary rate that has been necessary the last two years. (In terms of general funds alone, the University's contribution has risen from $1.1 million in FY 70 to $1.8 million in FY 71, to a projected figure of between $2.0 and $2.1 million for FY 72.) The plan outlined above, when extended into FY 73 and FY 74, implies annual increases of about 7 percent per year in endowment and general funds. The Committee believes that increases of this magnitude will almost certainly have to be provided, but we also believe that it is not realistic to expect more than this.

New Forms of Support: A Contingent-Repayment Plan. In view of these circumstances a number of universities have been considering a new form of support for students, originally called a "contingent-repayment plan" and now often referred to as a "pay-as-you-earn" plan. This is not the place to describe all the features of such a plan or the arguments for and against it. Suffice it to say that the essence of the plan is that a graduate student would be advanced money to cover part of the costs of his education in exchange for a promise to repay a fixed percentage of his future income over a long period of time (perhaps 30 years). Thus, repayment would be contingent on income, and students would not need to worry about being saddled with a large fixed obligation (as in a conventional loan) which they would have to repay over a relatively short period of time, year in and year out, whatever their circumstances.

There are a number of questions to be resolved before such a plan can be tried (legal and administrative questions, as well as sources of financing, ways of limiting the risk to the institution, and so on). We do think it is a promising idea, however, and Princeton has been actively involved in working with other private and public universities to see if a common plan can be developed.

It should be emphasized that we do not view the possible adoption of a contingent-repayment plan as any panacea or as a substitute for increases in other forms of support. Rather, we see it as one new form of support, to be thought of as complementary to other forms of support, contributing in some measure to the solution of an overall problem which is so large in its dimensions that it will require our best efforts on many fronts.

Housing and Dining. In FY 72 as in FY 71, the deficits associated with the operation of housing and dining services for graduate students are regarded as an integral part of the overall budget of the Graduate School. The decision to treat graduate student housing and dining in this way is part of the general effort to relate expenditures to the purposes which they serve -- in short, to budget on a "program" basis. This approach to budgeting serves to emphasize that the larger these deficits, the smaller the amount of money available for fellowships.

As a general proposition, the members of the Priorities Committee believe that the same arguments cited earlier for reducing deficits on undergraduate dormitories and dining services and on faculty and staff housing apply here. Considerations of equity, in particular, argue against providing subsidies to some students and not to others -- those unable to be accommodated in University housing.

In the case of the Graduate College, the Committee has recommended increases of approximately 5 percent per year in room charges and 8.5 percent per year in board charges as part of a plan to eliminate the deficit on these operations by FY 74.

In the case of married student housing, the situation is made much more difficult by the present magnitude of the deficit -- almost $250,000. Income covers less than 80 percent of the direct costs plus charges for interest and amortization.[1] In our judgment, there is no reasonable set of rental increases that would eliminate this deficit over the next three years. The Committee does believe, however, that on grounds of both economy and internal equity at least modest progress should be made in reducing the size of the deficit. Accordingly, we have recommended to the Dean of the Graduate School that for FY 72 he plan in terms of rental increases that would average approximately 10 percent.

On the basis of a long discussion of this whole subject there is one other comment we wish to make. Members of the Committee feel particularly uncomfortable with a situation in which large subsidies go to some residents of this housing who are able to pay more and who, in fact, may be saving part or all of their fellowship stipends. At the same time, we are also troubled by the fact that for others the imposition of even modest increases will cause real hardship. We believe that the best long-run resolution of this difficulty lies in the development and application of a means test which would apply to the awarding of fellowships. And, as noted above, the Dean of the Graduate School is moving in this direction as rapidly as he can. Meanwhile, we believe that other approaches to the housing problem deserve study -- notably, either allocation policies which give priority in access to the least expensive housing to families with real need or pricing policies which would eliminate subsidies for families with incomes above some level. Further study may reveal persuasive objections to both of these possibilities, but we believe they at least deserve to be considered.

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[1] All of these figures represent the combined situation at Butler and at Lawrence Apartments. For reasons stated in our discussion of undergraduate dormitories and dining services, we believe that it would be a serious error to think in terms other than the costs and benefits of married student housing as a whole. Otherwise, rentals for any units built in recent years, or at a time when interest rates happened to be high, would have to be increased for those reasons alone. This would not be equitable. Nor would such a policy be conducive to the development of more housing by the University at a later date. Price differentials, in our opinion, should be related to differences in the attractiveness and amenities of the different facilities, not to more or less accidental differences in costs.

Student Aid: Undergraduate Level

The Present Situation. Princeton has been committed for many years to a substantial program of financial assistance to undergraduates. Under this program financial aid has been based on "need" as defined by a formula common to many colleges and universities, and financial aid has included loans and jobs as well as scholarships. Substantial endowment has been raised for this purpose, and until three years ago almost all University funds awarded as scholarships came from this source and from gifts and grants. In the current year, endowment yields nearly \$2 million for scholarships while gifts and grants contribute another \$540,000. Since FY 69, however, the extraordinarily rapid rise in scholarship requirements has outpaced the growth in these sources of income and some general funds have also been allocated to the scholarship account: \$100,000 in FY 69, \$276,000 in FY 70, and \$510,000 in FY 71.[1]

Approximately 45 percent of the students in the present freshman class are receiving scholarship assistance, and this includes 10 percent who are receiving very large scholarships because they come from economically disadvantaged families (income below \$7,500). In addition, about 7 percent with smaller need are receiving financial assistance in the form of loans and work opportunities. Thus, of the entire class, approximately 52 percent are receiving some form of financial assistance. At the same time, the scholarship funds available in the last few years have not always been sufficient to guarantee scholarship assistance to every admitted student with demonstrated need.

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[1] If one adds up all the numbers for FY 71 in this paragraph he will obtain a total that is lower than the figure shown in Appendix Table A-2. The explanation is that the summary table includes prizes as well as scholarships and also some scholarships awarded directly to students by outside organizations.

The Basis for Recommendations. In considering what to recommend for FY 72, the Committee decided at the outset that sensible recommendations could be made only in the context of a plan for the next several years. Since Princeton has long followed the policy of providing four years of financial assistance to students offered aid at the time of their admission, it is apparent that decisions made regarding the entering class entail financial commitments extending well into the future.[1] Accordingly, the Committee asked the Dean of the College and his associates to consider a number of alternative plans through FY 74 in preparation for discussions with the Priorities Committee. Some of these plans were predicated on more or less arbitrary assumptions concerning levels of expenditure (for example, increases ranging from 0 percent to 40 percent per year in general funds); others started with specified assumptions about the percentage of entering students receiving financial aid, the composition of the aid packages, and so on, and then derived the financial requirements.[2]

The results of this analysis of alternative plans were discussed within the newly formed Faculty Committee on Undergraduate Admission and Financial Aid meeting in joint session with the parallel student committee appointed by the Undergraduate Assembly. A thoughtful memorandum was submitted to us by that Committee which argued forcefully for a policy of guaranteeing sufficient general funds to provide the financial aid required by all students offered admission to the University. Members of our Committee agreed that this principle has great appeal, but we concluded that it could not be treated as an absolute. A further analysis of the financial implications of such a policy -- presuming some continuing increases in the percentage of students requiring aid -- showed that it could require an appropriation from general funds of over $1.1 million in FY 72, over $1.5 million in FY 73, and nearly $1.9 million in FY 74.[1] As already noted, the corresponding figure for FY 71 is $0.5 million.

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[1] These commitments have always been stated in terms of financial aid in all forms (loans and jobs as well as scholarships); however, we have not in practice asked continuing students to accept substantial reductions in scholarship aid unless there was a change in their financial circumstances.

[2] The development of each alternative plan required a detailed analysis, class by class, of all of the various elements that go to determine financial aid and the sizes of scholarship awards. The Committee wishes to thank Miss Janet Hansen and Mr. W. Bradford Craig for providing the necessary data and for their help with all aspects of the Committee's study of this subject.

Our Committee decided, reluctantly but firmly, that increases of anything approaching this magnitude were entirely incompatible with the resources likely to be available, now or into the future. Adoption of a policy of this kind would require additional sacrifices in terms of salary increases and educational programs beyond anything yet contemplated. Measured in terms of the further reductions in the base of the University's budget which must yet be achieved according to the projections in Section II of this report, a guarantee of aid for all admitted students with need would require that we recommend net reductions in the budget base of between $1.0 and $1.5 million rather than the target of $0.5 million now embodied in our provisional plan. Scarce resources do constrain our ability to push any one principle as far as we might like, and our conclusion is that an unqualified guarantee of aid for all admitted students would require us to do considerably less than justice to other aspects of the University which are also central to its quality.

This conclusion has an important corollary. As the percentage of successful applicants requiring aid rises, it will be necessary either to admit some of these students without the scholarship aid they need (leaving it up to them to decide whether they can attend Princeton under such circumstances) or to consider a change in admission policy. We make this point only to direct attention to the alternatives which must be considered. It should be stressed that in our own deliberations we have not considered changes in admission policy and that a number of members of our Committee are strong supporters of the present policy. This is an important question to be decided in its own right, and some people believe that the right answer may depend on the circumstances of the individuals concerned and the ability of the University to offer loans and job opportunities. In any case, this matter falls outside the province of the Priorities Committee and should be considered carefully by the proper groups.

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[1] These results were based on the same assumptions concerning changes in the composition of the student aid package (including a $100 increase per year in loan expectations) made in analyzing the other alternatives. We later had to modify all of these assumptions, as indicated below.

We wish to emphasize that our inability to treat the principle of guaranteeing scholarship aid to all who need it as an absolute certainly does not imply any lack of belief on our part in the importance of providing substantial student aid. We believe this element of the budget deserves a high priority, and a great deal of effort has been devoted to trying to devise a specific plan which would be both financially feasible and compatible with present commitments -- enrolling an entering class containing roughly 10 percent disadvantaged students and approximately 50 percent receiving some form of financial aid. Maintaining the position we have now reached will itself require considerable increases in funds, in part because of increases in educational costs, and in part because the class graduating in 1971 contains an appreciably smaller percentage of disadvantaged students than the number for which we are hoping to make financial provision in next year's freshman class.

Still, we believe that this objective is important enough to merit increased budget provision at a time when most other budgets in the University are being reduced or held constant. It seems so important, first, because adequate aid is necessary to enroll a student body that contains outstanding individuals, whatever their financial circumstances. Second, adequate student aid is necessary to provide the degree of diversity that has contributed so much to the quality of the educational experience at Princeton in recent years. Third, we believe that Princeton, like all other institutions in American society, has an obligation to help make equal opportunity a reality, and this too requires scholarship funds.

Unfortunately, it is easier to state and defend these reasons for making a substantial investment in student aid than it is to translate them into policies which are viable financially. The calculations made at the start of our examination of this subject forced us to conclude that Princeton cannot afford to maintain the current position with regard to the percentage of students receiving assistance unless we are prepared to recommend changes in the composition of the student aid packages. Even with modest increases in the loan and work components, the original estimates projected an increased demand on University funds (endowment plus general funds) of $600,000 between FY 71 and FY 72 alone. This seemed too big a jump to absorb, and so we were forced to consider another tradeoff: reduce the percentage of students receiving financial aid or increase the self-help component (loans and work) in the typical student aid package.

The more we discussed this issue among ourselves and with representatives of the Faculty Committee on Undergraduate Admission and Financial Aid, the more convinced we became that maintaining a high degree of access to Princeton on the basis of ability and promise rather than wealth was so important to the student body as well as to the University in general that the composition of the student aid package should be reexamined.

Recommendations: More Reliance on Self-Help. In the current year students receiving scholarship aid are expected, in the typical case, to accept a $500 loan as part of the self-help contribution. We recommend that this amount be increased to $800 in FY 72, $900 in FY 73, and $1,000 in FY 74 for all non-disadvantaged students on financial aid. For disadvantaged students, we recommend that loans be increased to $600 in FY 72, $700 in FY 73, and $800 in FY 74. On the basis of an analysis of typical summer earnings, we also recommend that non-disadvantaged students be expected to contribute $100 more from summer earnings than they were this year. Disadvantaged students, however, will not be expected to contribute this increased amount because their families often depend on their summer earnings to help defray living expenses.[1/]

The actual borrowing experience of undergraduates at Princeton during 1969-70 (the last year for which complete data are available) provides some basis for believing that loan expectations can be increased particularly in the case of non-disadvantaged students. In that year, approximately 10 percent of entering students who were offered a combination of scholarships and loans accepted the scholarships but declined the loans. Moreover, of the 244 who took loans, 109 borrowed less than $400 and another 77 borrowed less than $500. Further evidence concerning the ability of some students to find additional resources is provided by the fact that a surprising number of those admitted students who were thought to have

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[1/] These proposals are based on our feeling that "need" must continue to be defined by the formula presently in use, at least for the time being, and that the total amount of aid offered (scholarship, loan, work) should equal the student's full need as determined by this widely-used formula. It may well be possible to improve the formula (we suspect that it is, and we understand that studies are now underway); however, it seems clear that any changes should be made only after careful study and on the basis of discussions with other universities.

scholarship need, but who were not offered aid by Princeton because budget limits had been reached, enrolled nevertheless. Finally, it is important to recognize that loan expectations at some other colleges and universities are now higher than at Princeton and that loan expectations are being raised almost everywhere.

Based on these assumptions concerning changes in the composition of the average aid packages, our calculations indicate that approximately $2,750,000 of endowment and general funds would be required to maintain in FY 72 the percentages of disadvantaged and other students receiving financial aid characteristic of the present freshman class while at the same time meeting the needs of students presently enrolled. This is our budget recommendation. It entails an increase of $331,000 over the comparable figure for the current year, and, as such, represents one of the two largest budget increases being recommended. (We are also recommending a large increase in graduate student support, as discussed in the previous section.) We make this recommendation because we believe that a strong scholarship program is one of the most important determinants of the overall quality and character of the University.

Future Planning. The assumptions stated above concerning future changes in expectations regarding loans and summer earnings, combined with the assumption that the percentage of entering students receiving aid will remain constant, imply that endowment and general funds together will have to contribute just over $3 million to scholarships in FY 73 and about $3.4 million in FY 74. These numbers have been included in the provisional plan for these years summarized in Section II of this report. They represent further large increments. However, we believe that they are feasible figures provided that it is possible to achieve the necessary economies in other aspects of University operations envisioned in the provisional plan.

In looking ahead, three more general comments also seem appropriate. First, attention must be given to finding additional job opportunities for students. More generally, we believe that the broad subject of the right relation between study and work needs to be considered by the Bressler Commission on the Future of the College. Second, it is possible that the ability and willingness of students to pay a higher fraction of their own educational costs out of future income will be increased significantly if a contingent-repayment plan becomes available. (See the discussion of this subject in the section on graduate student support.) Finally, regardless of the outcome of the discussions of increased work opportunities and contingent-repayment plans now under way, we believe that there will continue to be a critical need for increased funds for student aid from State and Federal sources, as well as from private donors. Only with increased support from external as well as internal sources will it be possible for this University, over the long run, to maintain the quality and the diversity which now characterize the student body at Princeton.

Academic Administration

General Observations. Before discussing academic administration as such in any detail, it may be helpful to make a few general comments concerning administrative costs and the approach of the Committee in this area.

It should be said at the outset that the Committee has examined the budgets of administrative offices in very considerable detail. A thorough scrutiny of this broad category of expenditures has seemed necessary and proper in view of our conception of the right "hierarchy" of budget reductions (see Section III). The University exists to serve educational purposes, and we believe that administrative and supporting services should be reduced as much as is consistent with effective management and use of resources before curtailing academic programs. This explains why, in our recommendations for FY 72, we have proposed much larger reductions in the base level of expenditures from general funds devoted to administrative services and to planning, plant, and properties than in expenditures devoted directly to academic programs or to student aid.

Stating the matter this way may mislead, however, if individuals come to think of educational programs, on the one hand, and administration, on the other hand, as constituting fundamentally competing activities. They are, in fact, complementary. In our list of the ingredients that must be present if the quality of the university is to be maintained (cf. Section III), we included not only an excellent faculty and other elements that contribute directly to programs of education and research but also: "Effective administrative and supporting services of all kinds, including an organization capable of finding and managing the financial resources on which all other activities depend." Harold Dodds, on the occasion of his retirement from the presidency of Princeton, said:

> Years ago a wise observer of American education told me that the institutions which were succeeding were those which had the courage to spend money on administration. The advice was good then; it is good today; I wish that I had heeded it more. It will be even more pertinent. . . as Princeton grows in services and complexity irrespective of size.

President Dodds is right. Courage is necessary in arguing for the provision of necessary administrative services because many members of any academic community have a natural and understandable tendency to be suspicious of administration. Yet, in important respects, this suspicion is a good thing. It discourages putting a premium on bureaucratic virtues as ends in themselves -- especially at a time when budget limitations require hard choices concerning the expenditure of funds. It is also extremely important, however, that the proper degree of tension between administrators and others not degenerate into real antagonism and "we-they" thinking. From this standpoint alone, the presence of representatives of all groups within the University community on the Priorities Committee seems to all of us to be very desirable.

Factors Affecting the Costs of Academic Administration. We believe that proposals regarding administrative costs should be based on a careful analysis of workloads and services rendered, not on the application of some more general conception of what constitutes too much or too little administration. Accordingly, it may be helpful to begin the more specific discussion of academic administration by summarizing briefly some of the main factors which, on the basis of the Committee's analysis, have led over the last few years to increased pressures on the budgets of administrative offices. In addition to the general effects of inflation on the costs of materials, postage, etc., the following general developments should be noted:

- The advent of coeducation, which has affected all offices dealing with the undergraduate program and with forward planning for the University. The Patterson Report on coeducation stated explicitly that the costs of coeducation would be proportionately heavier in academic administration than in the academic departments and programs, and this prediction has been borne out.

- Greatly increased efforts to be more perceptive of and more responsive to the needs of minority groups within the student body and the University generally. Several additions to staff have been made with this objective in mind.

- The need to pay increased attention to relations with the local community as well as to relations with the State and the Federal government. While most of the responsibility in this area has been assumed by general administrative offices, a number of academic administrators have also become more actively involved with this set of concerns.

- The occurrence of demonstrations and protests of various sorts, and the need to modify and improve the judicial procedures of the University.

- Changes in the governance of the University with greatly increased emphasis on wider consultation and more active participation on the part of student and faculty groups as well as representatives of the administrative staff. There has been a pronounced increase in the number of meetings and in the time and staff work needed to prepare for meetings.

- Relations with the alumni and other off-campus groups demand more time and attention from academic administrators as well as from others.

- The introduction of a more flexible and varied educational program at the undergraduate level. This has had two principal effects: (a) it has led directly to the assumption of the costs for academic programs in the colleges and halls on the budget of the Dean of Students; and (b) more generally, it has placed greatly increased demands on the Office of the Dean of the College and the Registrar. Special programs and special dispensations inevitably mean higher administrative costs.

- The financial squeeze itself has had pronounced effects on the workloads of all offices by requiring more detailed and better documented budget submissions and, in the case of some offices, attention to new ways of making more effective use of resources. Greater control of budgets and more careful forward planning are essential if the University is to cope successfully with the problems which now confront it, but efforts of this kind all require expenditures.[1]

Recommendations for FY 72. Because of these greatly increased sources of pressure on almost all elements of academic administration (none of which seem to be abating significantly, with the possible exception of the frequency of demonstrations), the Committee does not believe that across-the-board reductions in administrative costs are possible.

At the same time, the Committee does recommend selective reductions which, taken together, would result in a reduction of about $86,000 in the base of the budget for academic administration (which totals approximately $3 million in the current year). These recommendations include:

- A reduction in the staff of the Admission Office. This office has increased significantly in size in each of the last three fiscal years, largely as a result of the move to coeducation, and we believe that the size of the staff can now be reduced somewhat. (Responsibility for transfer applications has been shifted to the Office of the Dean of the College, and this is one particular factor to be noted.)

- A modest reduction in the combined staffing of the Counseling Services and the former mental health section of the Infirmary. The planned amalgamation of these groups should lead to some increase in efficiency.

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[1] Princeton has been fortunate in that a considerable proportion of the costs of developing the new systems of budgeting and financial planning introduced over the last three years has been paid for by the Ford Foundation through a grant to the University for a demonstration project concerned with resource allocation. We have tried to justify this commitment of Foundation funds by making widely available some of the results of our efforts, including the feasibility section of the Patterson Report on Coeducation, the booklet on the Definition of Endowment Income, the study of the economics of dining, and this report.

- A decrease in funds allotted for the moving expenses of new faculty members. This reduction follows directly from the restrictions imposed on faculty manning.

Finally, it should be noted that, though the action was not taken on the basis of a recommendation by the Priorities Committee, the net reduction in the budget includes savings resulting from the recently-announced decision of McCarter Theatre to have no repertory company of its own in 1971-72.

Outlook for the Future. The provisional plan presented in Section II of this report assumes no net changes in the number of personnel in academic administration or in general administration in FY 73 and FY 74. We believe that this hold-the-line policy probably can be managed provided that no new demands are made of these offices. We do not believe, however, that it is reasonable to expect substantial reductions in staffing in this area unless some of the trends referred to above are reversed -- which seems unlikely. While we believe, of course, that every effort should continue to be made to achieve economies in academic administration, as in all other supporting services, we also believe that it would be misleading to suggest that painful choices concerning reductions in academic and non-academic programs can be avoided by presuming that there are large savings yet to be made in academic administration.

General Administration and Security

The Committee recommends a FY 72 budget for the departments comprising the general administration group -- essentially composed of staffs devoting attention to fund raising, relations with the alumni and the public, financial matters, and administrative and supporting services of all kinds -- of $4,940,000 (exclusive of salary increases). This is a reduction of $179,000 in the budget base from the FY 71 level.

In addition, the Committee recommends that the budget base for the Security Department be reduced by $94,000 (from $826,000 to $732,000, exclusive of salary increases).

Factors Affecting Work Load and Costs. Before describing the principal actions which the Committee recommends to attain the budget levels being proposed, it is worth noting briefly that here too there are forces at work tending to increase costs. The recommended savings would be achieved through reductions which would more than outweigh these relatively uncontrollable forces. Many of the factors mentioned in the discussion of academic administration apply here also, though the effects differ in some respects. Of special importance in the case of general administration are:

- The much larger requirements for alumni and external relations. The growth of the alumni body, along with recently intensified concerns, has added markedly to the work load and costs of the President's Office, the Office of Public Information, the Alumni Council, and the Development Office. As the President has stated repeatedly over the last two years, those of us in the University must do more to improve two-way communication with our alumni and other friends.

- The increased need for more financial support from the private and public sectors. Much greater pressures on the Development Office, in particular, are a direct consequence of this obvious factor.

- The trend toward more use of loans as a component of the student aid package at both graduate and undergraduate levels. This growing trend has had a marked effect on the work load in the Controller's Office as well as in the Bureau of Student Aid and the Graduate School Office.

- Much higher costs for travel and especially postage. These unavoidable increases affect all offices, but they have particularly pronounced effects on the Alumni Council and the University's fund raising activities.

- Higher premiums for liability insurance.

- The search for economies. Principal effects (in addition to those noted under the discussion of academic administration) have been felt in: Purchasing and Administrative Services, in connection with much tighter budgeting procedures for capital equipment; Personnel Services, in relation to better manpower utilization and careful handling of terminations; the Controller's Office, in connection with the more detailed and more complicated budgeting procedures now in use.

There is one more factor pushing up the apparent costs of the general administration departments as these are calculated for budgeting purposes. Some increases in spending -- in the print shop and in the photoduplication section of Firestone Library, for example -- are reflections of increased demands placed on these service departments by other elements of the University. Since many of these services are provided on a fee basis, higher income (included in line 6 of Appendix Table A-1) is associated with these higher expenditures.

On the opposite side of the ledger, we should also call attention to one factor tending to reduce the work load for some administrative offices: the decline in the dollar volume of sponsored research noted elsewhere in this report. Efforts are continuing to identify specific savings which can be achieved as a result of this source of decreased demand for certain services, and thus far recommendations have been made concerning the staff in Purchasing and Personnel Services (see below). From this standpoint, however, it is important to remember that it is the reduction in support for one large undertaking (the Princeton-Pennsylvania Accelerator) that accounts for the bulk of the overall reduction in sponsored research. In fact, the total number of contracts and grants has gone up, and the work load of a number of offices is affected as much by the number of separate agreements as by their dollar amount. Also, as is well known, changes in indirect costs of all kinds tend to lag behind changes in direct costs, whatever the direction of change. Princeton benefited from this effect in the early 1960's, and we must now expect it to work against us.

Recommended Reductions. Having described some of the factors affecting our ability to achieve substantial savings in general administration costs, we now present recommendations which are consistent with our firm belief that significant reductions in this area must be made at this time. If adopted, our recommendations would require:

- Withdrawal of general funds support from University, Princeton's quarterly magazine. University is a very high quality journal with wide appeal. However, we believe that in time of financial stress we cannot afford to support the magazine from general funds. It is not clear at present whether publication of University could continue in some form, making use of certain restricted funds which have been devoted to its support in the past. A study of this possibility is now being made.

- Discontinuance of the Secretarial Services typing pool. This staff has provided useful services to a large number of offices over the years, and its existence has undoubtedly slowed the growth in secretarial staff in the departments. To avoid offsetting staff increases elsewhere, we recommend that a practice already being followed in many buildings -- that of sharing peak typing loads with secretaries from nearby offices -- be extended throughout the University.

- Elimination of the Office of Legal Counsel. One implication of this step would be that many services now being provided -- to various student groups, for example -- would have to be severely curtailed. Minimal legal services required by the University would continue to be provided, but by outside counsel.

- Elimination of the administrative intern program. This worthwhile project has provided an opportunity for recent college graduates to embark upon careers in university administration, by giving them experience working in several different areas. The interns have been of great value to the offices they have served. However, we believe that this program has a lower priority than others in our present circumstances.

- A staff reduction in the Office of Personnel Services which will mean devotion of less effort to employment recruiting and counseling.

- A very substantial reduction in personnel in the Security Department, as well as reduced provision for overtime and the closing of certain buildings on University holidays.

- Absorption of the entire cost of higher travel and postage expenses by the Alumni Council, and by all fund raising activities.

- Restriction of publication costs of the new University newsletter to those which can be underwritten by special restricted funds.

- Cutbacks in Princeton s memberships in outside organizations.

- Elimination of the faculty picture book as an annual publication.

A few words should also be said about one program which the Committee recommends be continued at its present level -- the minority training program. This is an on-going effort, budgeted in the Office of Personnel Services, to train the disadvantaged for productive employment at Princeton, for example in the highly-skilled building trades. Under more favorable financial circumstances, this is a program which we feel would deserve increased emphasis. But particularly in view of the fact that foreseeable job openings in the skilled craft categories will not be numerous enough to absorb the output of an expanded training program (turnover in this group is quite low and the budget for Planning, Plant, and Properties is being reduced), we believe the program should be held to its present course for now. At the same time, our Personnel Office will work with individual departments to see that any additional opportunities for minority training in those departments are fully utilized.

There is also one major unresolved issue which deserves brief mention. It has been suggested to the Committee that savings might be achieved by merging the separate administrative computing operation with the computer center. The issues posed by this suggestion are complex and require fuller study. Appropriate experiments are being designed and the experience of other universities with combined operations is being appraised.

Comparisons with Other Universities. In concluding this discussion of administration it seems worthwhile to present a brief table which provides rough data comparing the ratio of general administrative expenses (including student services and academic administration) to total expenditures at various universities for which data are available. We present this information because questions are often asked concerning it.

Ratios of General Administration and General Expenses (including Academic Administration) to Total Expenditures, circa FY 70:

University of Pennsylvania	7.8%
University of Minnesota	8.2%
University of California	9.1%
PRINCETON	9.4%
Stanford	9.5%
Carnegie-Mellon	10.0%
Brown	10.2%
N.Y.U.	11.7%
California Institute of Tech.	13.2%
Amherst	15.2%
Dartmouth	15.2%

This table was constructed by our Controller on the basis of data in the financial reports of the respective institutions. It must be emphasized that we have no way of being sure that these data are comparable in any strict sense. In particular, certain differences between institutions may be more apparent than real because of differences in the degree to which administrative costs are budgeted separately as distinct from being subsumed within departmental budgets. Also, some other institutions (besides Princeton) may treat the costs of certain academic programs in colleges and halls, as well as the expenses of activities such as McCarter Theatre, as components of academic administration. Still, as rough as they are, these figures do suggest that administrative expenditures at Princeton are not abnormally high -- particularly when it is recognized that Princeton does not enjoy some of the economies of scale which presumably are available to the larger universities. (Note the positions of most of the smaller colleges and universities near the bottom of the table.)

Planning, Plant, and Properties

The Committee recommends a budget for Planning, Plant, and Properties of $8,604,000 in FY 72, a reduction of $236,000 from the budget for FY 71. This decrease from the base of current operations is the largest which we are proposing for any of the major elements of the University.

The Committee's recommendations for the expenses of operating and maintaining Princeton's physical plant illustrate quite clearly our application of four maxims: (1) the "falling-off-the-cliff" principle, (2) concern for the future health of the University, (3) the necessity to plan for several years rather than one at a time, and (4) the high priority we place on curtailing supporting services at a time when failure to do so would require -- within the constraint of any given deficit level -- more severe reductions in basic educational programs.

New Construction. The present state of the budget for Planning, Plant, and Properties -- and the Committee's recommendations -- are best understood in the light of recent trends in new construction activity. Over the past decade, gross square feet of building space at Princeton has grown by more than 80 percent. Although construction funds have often been secured through specific gifts -- and in any event are not included in the operating budget -- the costs of heat, light, power, janitorial service, and the like are direct charges to annual operations. These extra costs of operating such large additions to plant as Jadwin Cage, Jadwin and Fine Halls, the new Computer Center, and the addition to Firestone Library have contributed to our present financial problems.

Since construction financing is outside the scope of the operating budget, and therefore of this report (and since the new buildings are there!), we simply take this opportunity to endorse the proposition that future new buildings -- with the possible exception of new dormitories needed to attain economies of scale in our educational endeavors -- should be constructed only if there is a good possibility of obtaining funds (preferably endowment funds) to care for the costs of maintenance and operations, as well as to meet construction costs.

Preservation of Plant. Before describing in detail the manner in which the Committee recommends that savings be achieved in operating the physical plant, we think it is important to point out one important area in which we believe cutbacks should not be made. Concern for the future health of the University has required that the General Manager of Planning, Plant, and Properties -- in his efforts to identify possible economies -- specifically refrain from offering up savings which would have the effect of allowing the fundamental physical condition of the plant to deteriorate. To do otherwise, would be the most dangerous sort of false economy. In fact, it should be noted that adherence to this principle has led the Committee to recommend -- within the context of a very substantial overall reduction in physical plant expenses -- a small increase in spending (on the order of $25,000) for more adequate preservation of various rental housing units.

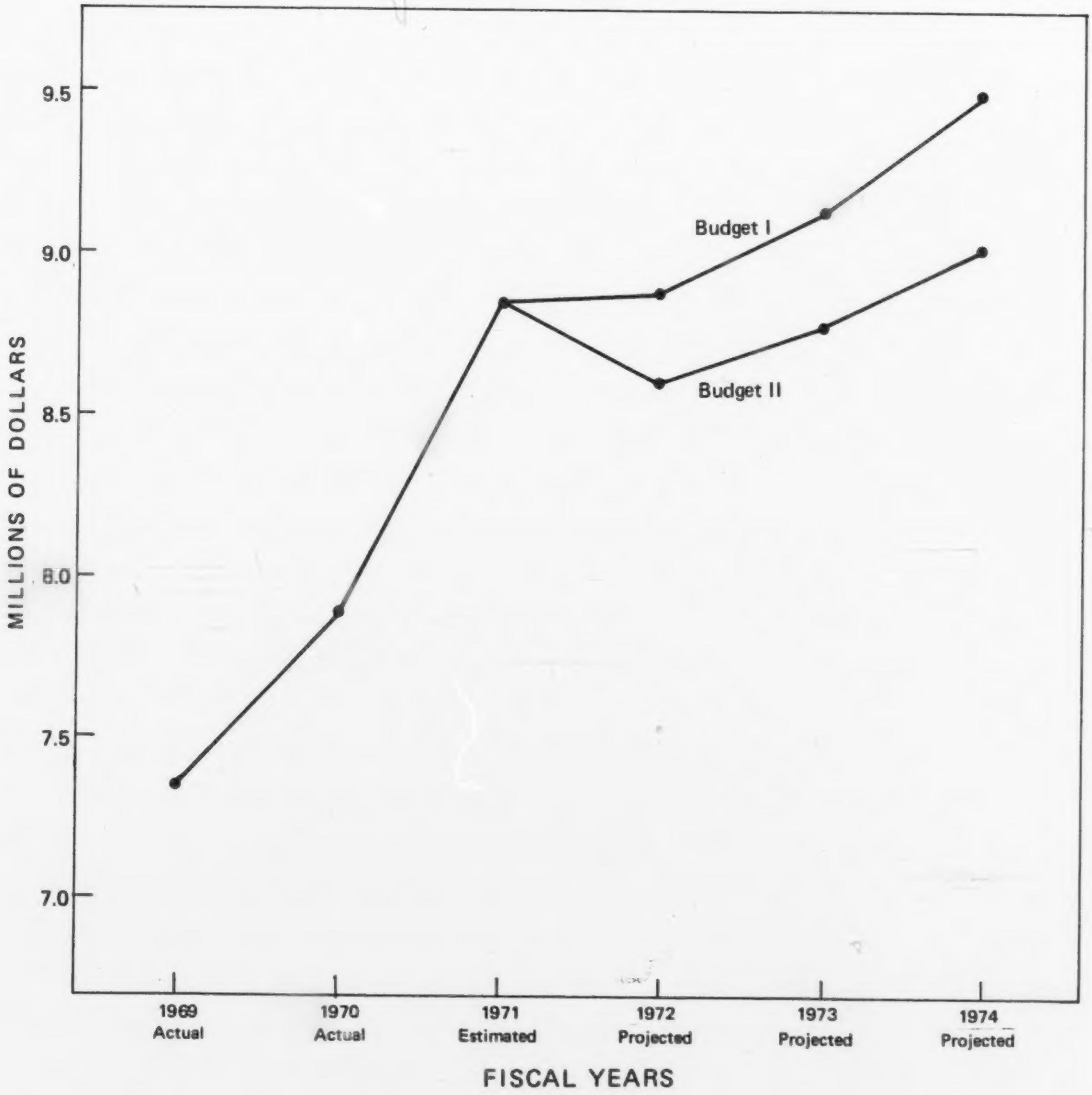
The Long-Range Plan. Our discussions of the budget for Physical Plant have been conducted within the framework of planning for the next three fiscal years. Two plans presented by the General Manager were given serious consideration. The first (Budget I) assumed that certain "uncontrollable" cost increases would occur -- owing, for example, to higher tax rates, insurance premiums, and utility charges -- but that these increases would be almost entirely offset in FY 72 through reductions in staffing and levels of service. Beyond FY 72, Budget I assumed that staffing and services would remain constant. The second plan (Budget II) allowed for the uncontrollable cost increases, but made even more dramatic reductions in staffing and services in FY 72, followed by further reductions in FY 73 and FY 74. We recommend adoption of Budget II. Both plans are illustrated in Figure 4.

The figure makes plain that the Committee's recommended budget for FY 72 would not only require savings sufficient to offset uncontrollable increases, but would go further by mandating a reduction of $236, 000 from the 1971 base. In FY 73 and FY 74, further service and staff reductions would be more than offset by uncontrollable cost increases, but the recurring annual savings -- compared with Budget I -- would still amount to nearly $500, 000 by FY 74.

Reductions in Staffing and Service. In assessing the impact of our recommendation on the services provided by Planning, Plant, and Properties, it is first of all important to recognize that over the past two years, in particular, substantial savings have already been achieved. Indeed, over the whole of the last decade, while building space was increasing more than 80 percent, the staff of the maintenance shops grew by less than 40 percent, the janitorial force was increased by less than 30 percent, and the grounds crew was enlarged by only 7 percent. Clearly, then, further substantial savings will have to be accompanied by a markedly lower level of services provided to the University community. Examples include:

1. Janitorial and Grounds Force. Over the three-year period FY 72 through FY 74, the combined janitorial and grounds force would be reduced by more than 25 percent by not replacing personnel who resign or retire. We should make clear that no "speedup" is contemplated; rather, the amount of work which was done by the people who depart would simply not be done thereafter. This would mean that some offices and classrooms would not be cleaned every day. The grounds would assume a more park-like appearance: the grass would not be mowed as often or

FIGURE 4
Planning, Plant and Properties
Direct Expenses, Actual & Projected
FY 69 – FY 74



as closely; the fallen leaves would be removed less frequently; the snow would not be plowed away so soon; and some outlying areas would not be maintained at all.

2. Space Alterations. A near moratorium would be imposed on alterations and improvements to existing building space. To cite an example of the sort of action this policy would require, a recent request by the Geophysical Fluid Dynamics Program to consolidate its scattered activities in a building which is vacant at present has had to be denied. Since renovation projects are financed initially from a major maintenance reserve, and are reflected in the operating budget only gradually through the operation of a five-year moving average of such expenses, the full savings would not help reduce the deficit until FY 77. However, the near moratorium on new projects will permit immediate savings by allowing a reduction in the size of the staff of the Office of Physical Planning, which oversees all renovations.

3. Bus Service. Transportation now provided both on the main campus side of Lake Carnegie and between the main and Forrestal campuses would be sharply curtailed. The bus service is expensive, and a careful survey has revealed that out of a total of approximately 300 riders a day, only about 25 are undergraduates who have a class at Forrestal, and fewer than a dozen are graduate students whose research is located there. It is these students who have a clearly legitimate educational need for transportation to Forrestal -- it is hardly their fault that Forrestal is so far away. Under the plan recommended by the Committee, their needs would continue to be served, but with a sharply curtailed schedule of runs between Forrestal and a central point on the main campus. The service between various points on and adjacent to the main campus would have to be ended.

We have reached these recommendations reluctantly, but in recognition of the fact that bus transportation has been a service provided to a relatively small proportion of the University community, and at considerable expense (approximately $1 per ride). The Committee does not believe that this kind of subsidy can be continued under present circumstances. Furthermore, the cost problems are aggravated by the fact that the present level of service could not be continued without purchasing a new bus this year.

4. Professional Staff. Our recommendations would require a 15 percent reduction in the professional staff of Planning, Plant, and Properties. Most of this contraction would be in the Office of Physical Planning, and would be possible because a near moratorium on alteration projects would diminish our need for in-house design work. Furthermore, it should also be possible to close the Construction Office now that new building construction has virtually come to a halt.

5. Management Improvements. The General Manager and his staff have also identified savings which will result from improved management of the physical plant. For example, Budget II provides for nearly complete termination of our outside contracts for painting, and for elevator and air conditioning maintenance. While these actions will result in a 15 percent decrease in interior painting, the maintenance tasks will be performed as before, but more efficiently with our own people.

These management improvement efforts will continue in the future, as they have in the past. Indeed, Budget II provides -- within the overall substantial decrease -- for a modest increase in staff effort devoted to accounting support for improved productivity measures. Possibilities for achieving savings in utility costs will be examined. Finally, studies will be pursued to determine if savings might result from using students in more physical plant jobs -- which would simultaneously improve the student aid situation.

Salary Policy

The Committee recommends salary increase pools for FY 72 which entail a total commitment of $1, 452, 000 in general funds (including both salaries and related personnel benefits).[1]

Three important conclusions we have reached regarding salary policy should be stated unequivocally at the outset:

- It is almost impossible to overrate the value of proper compensation in sustaining the excellence of Princeton's programs, and in maintaining the morale of our people.
- The salary policy we recommend for FY 72 is an austere one, particularly for individuals in the higher salary categories.
- Such an austere salary policy ought not to be recommended for more than one year.

Princeton's salary increases for FY 70 were, in general, liberal enough to improve our competitive position somewhat and to protect our faculty and staff from inflationary increases in living costs. Indeed, when it became apparent six months after the original budget was completed that the deficit was going to be smaller than anticipated earlier, the President and Trustees demonstrated their concern for proper compensation by approving additional salary increases. Again last year, the Priorities Committee placed a very high priority upon adequate salary pools, with the result that increases granted for FY 71 were, on average, larger than those provided at many other colleges and universities.

For FY 72 only, however, the Committee recommends a much more restrictive policy. This policy would protect most of those in the middle and lower salary ranges from inflation (through increases of as much as 6 to 7 percent in the lowest pay categories), but would allow for only much smaller proportional increases for those who are already receiving higher compensation. In the highest paid categories we recommend a salary increase pool of only 2 percent of current salaries. This is intended to be used only to reward exceptional performance and to reduce manifest inequities. Thus acceptance of our recommended budget for salary increases would require that a significant proportion of our best paid members of the faculty and administration be given no salary increases at all for this one year.

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[1] The actual salary pools assigned to various elements of the University will -- in the aggregate -- be larger than this owing to the inclusion of increases to be charged to sponsored projects and restricted funds.

In reaching these conclusions -- and we have reached them most reluctantly -- the Committee has had to contend with two dilemmas.

First, we feel strongly that almost nothing would undermine Princeton's preeminence in higher education as much as allowing our salary scales to deteriorate in comparison with other major universities and other organizations over the long term. Yet we are recommending what really amounts to a "pay pause" for some of our best people. The explanation for this apparent contradiction has to do with time horizons. Over the long run, we firmly believe that it would be far better to reduce the level of some of our programs and supporting services -- even to terminate some of them entirely -- than to allow the quality of all of them to be eroded. And, in fact, we have followed this dictum this year, as the program reductions and terminations recommended elsewhere in this report amply demonstrate. But some programs, and particularly academic programs, cannot be modified suddenly. Our commitments -- legal and moral -- to faculty and students cannot be so abruptly abridged.

Yet the need to achieve substantial savings now is very real, and we believe that this need is overriding for this one year. We feel we must demonstrate our determination to do all that we reasonably can to bring the deficit down significantly in FY 72, as well as to initiate the further action necessary to achieve balance in the longer run.

Our second dilemma is related to the distribution of salary increases among the various pay categories, within an overall salary pool of considerably diminished size. On the one hand, concern for the quality of our programs would suggest that our very best (and therefore generally best paid) people ought in many cases to be favored. On the other hand, these same individuals are in a much better position to weather one more year of inflation than are those at the other end of the salary scale. Principles of equity and of merit (which in turn relate to competition with other institutions) conflict, at least to some extent.

In the main, the Committee has come down on the side of equity for FY 72. Our lowest paid people are undeniably more vulnerable to increases in living costs, since a much higher proportion of their earnings must be devoted to food and other essentials. In recommending larger percentage increases for these groups, we are not unmindful of the very real cost squeeze being experienced by nearly all of our faculty and staff, those earning high salaries as well as those earning less. Neither are we unmindful of the fact that our knowledge of salary increases being granted by many other universities -- though fragmentary -- nevertheless suggests that adoption of our recommendations would not be out of line with actions being taken elsewhere. We are also aware of the need to continue to make Princeton attractive to those younger members of the faculty and staff who have outstanding promise, and we intend that the merit principle be invoked in their cases. More generally, the policies being recommended for FY 72 do not represent any change in our feeling that over the long run adequate salary differentials (and thus adequate incentives) must be maintained.

Finally, there is the question: Is it really reasonable to suppose that our financial situation will permit us to hold to an austere salary policy for only one year? We think that it is. FY 71 and FY 72 will plainly be bad years in a number of ways. But over the longer term there are grounds for guarded optimism. The economy may be expected to recover -- albeit gradually -- and this will help stock market values and the return on our invested funds. Clearance of legal hurdles would allow us to begin to use a prudent portion of the capital gains on our portfolio. Our recent heavy investment in fund raising should increasingly benefit current income.

But in the last analysis, perhaps the best hope for a speedy return to adequate salary policies rests on attaining the target for longer-range economies included in our provisional plan for FY 73 and FY 74. Only by proceeding in this way can we reduce the risk that future short-term fluctuations -- in the economy, fund raising, government support, and a host of other factors -- will again make it difficult to continue to provide appropriate salary increases.

APPENDIX TABLE A-1

PRINCETON UNIVERSITY
1971-72 Operating Budget: Income
(in thousands of dollars)

	FY70 Actual (1)	FY71 Budget (2)	FY72 Projection (3)	Difference (3) - (2) (4)
1. Endowment	12,310	14,262	14,855	+593
2. Student Fees:				
a. Undergraduate Tuition	7,990	9,125	10,710	+1,585
b. Graduate Tuition	3,522	3,653	3,915	+262
c. Other	248	260	251	-9
Subtotal	11,759	13,038	14,876	+1,838
3. Gifts and Grants (non-Gov't):				
a. Sponsored Projects 1/	1,967	1,378	993	-385
b. Annual Giving	2,983	3,100	3,100	---
c. Other	3,737	3,724	3,624	-100
Subtotal	8,687	8,201	7,717	-484
4. U.S. Government Agencies:				
a. Sponsored Projects 1/	27,737	23,938	22,067	-1,871
b. Other	3,128	2,465	1,809	-656
Subtotal	30,864	26,403	23,876	-2,527
5. Auxiliary Activities:				
a. Athletics	647	599	626	+27
b. Dormitories and Food Services	4,777	5,667	6,231	+564
c. Faculty and Staff Housing	1,143	1,237	1,372	+135
d. Married Student Housing	373	398	434	+36
e. Commercial Properties	772	765	787	+22
Subtotal	7,712	8,666	9,450	+784
6. Service Departments	2,845	3,251	3,317	+66
7. Other	2,304	2,287	2,523	+236
GRAND TOTAL	76,481	76,109	76,614	+505

1/ Summary of Sponsored Projects:

a. Direct Costs	23,348	19,298	17,087	-2,211
b. Indirect Cost Reimbursements	6,356	6,018	5,973	-45
Total */	29,704	25,316	23,060	-2,256

*/ Sum of lines 3a and 4a.

APPENDIX TABLE A-2

PRINCETON UNIVERSITY
1971-72 Operating Budget: Expenditures
(in thousands of dollars)

	FY70 Actual (1)	FY71 Budget (2)	FY72 Recommendations (3)	Difference (3) - (2) (4)
1. Academic Departments:				
a. Instructional Salaries:				
1. Faculty, acad. year	8,573	9,577	9,570	-7
2. Teaching ast. stipends	449	526	612	+86
3. Teaching ast. tuitions	169	406	499	+93
b. Other salaries, expenses, and benefits	16,584	15,920	15,030	-890
c. Graduate fellowships:				
1. University fellowships[1]	1,341	1,688	1,902	+214
2. Other fellowships	3,876	3,158	2,908	-250
Subtotal	30,993	31,275	30,521	-754
2. Special Academic Programs	13,493	11,608	9,708	-1,900
3. Undergraduate Scholarships and Prizes	3,027	3,299	3,622	+323
4. Central University Services:				
a. Library	3,218	3,659	3,659	---
b. Computer Center	2,196	2,284	2,099	-185
c. Security	564	818	732	-86
d. Other	648	623	593	-30
Subtotal	6,626	7,384	7,083	-301
5. Administration:				
a. Acad. Administration	2,938	3,171	3,085	-86
b. General Administration	4,282	5,119	4,940	-179
Subtotal	7,220	8,290	8,025	-265
6. Planning, Plant, and Properties	7,884	8,840	8,604	-236
7. Athletics	1,222	1,288	1,220	-68
8. Dormitories and Food Services	3,808	3,947	3,938	-9
9. Undistributed Personnel Benefits	-31	---	---	---
10. Transfers to Reserves	3,223	3,234	3,422	+188
11. Salary Increases (including benefits)	---	---	1,452	+1,452
12. Savings from unfilled positions and unspent operating budgets	---	-550	-100	+450
13. Allowance for contingencies	---	50	300	+250
GRAND TOTAL	77,466	78,665	77,795	-870
14. Estimated Income	76,481	76,109	76,614	
15. Surplus or (deficit)	(985)	(2,556)	(1,181)	

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[1] Endowment and General Funds.

APPENDIX B

Principal Assumptions Underlying Alternative Projections of Income and Expenditures for FY 73 and FY 74

As indicated, the alternative projections of income and expenditures presented in Table 4 and the accompanying discussion rest on specific sets of assumptions. These assumptions are listed in the following two tables (B-1 and B-2), which are largely self-explanatory.

The assumptions regarding specific elements of income and expenditures on these tables can, of course, be combined in a great variety of ways to obtain overall projections. As a starting point for our analysis, we treated all of the "lower" assumptions as one group, all of the "higher" assumptions as another group, and then constructed the four sets of budget totals resulting from the various combinations of the higher and lower income and expenditures figures. Moreover, in combining higher income and lower expense, and lower income and higher expense, we adopted certain "consistency assumptions." For example, it would make no sense to combine the higher assumption regarding reimbursements for sponsored projects with the lower assumption regarding expenditures by sponsored projects. Thus, higher sponsored research expenses have been included with higher sponsored research income when constructing the higher income/lower expense totals. Modifications of a similar sort have been made to take account of the interactions between tuition charges and projected expenditures for student aid.

APPENDIX TABLE B-1

PRINCIPAL ASSUMPTIONS UNDERLYING ALTERNATIVE PROJECTIONS OF INCOME FOR FY73 AND FY74

SOURCES	LOWER ASSUMPTIONS	HIGHER ASSUMPTIONS
1. Endowment	(a) $2 million per year increase in principal; (b) 3% increase in income per unit in FY73 and 6% in FY74; (c) No capital gains included in income.	(a) $4 million per year increase in principal; (b) 6% increase in income per unit in FY 73 and FY 74; (c) An additional $600,000 of capital gains in FY74 per plan endorsed by Trustees.
2. Tuition	(a) Increase in undergraduate enrollment per plan for coeducation; (b) Graduate enrollment to remain at FY72 level; (c) Tuition to increase $200 per year.	(a) Same as "Lower"; (b) Same as "Lower"; (c) Tuition to increase $300 per year.
3. Contracts and Grants for Sponsored Projects	5% decrease in FY73 and FY74.	5% increase in FY73 and FY74.
4. Annual Giving	Constant in FY73 and FY74 at FY72 level.	5% increase in FY73 and FY74.
5. Other Gifts and Grants (Private and U.S. Gov't.)	Current major term grants to be phased out with 25% replacement.	Current major term grants to be phased out with 75% replacement.

Table B-1-Principal Assumptions Underlying Alternative Projections of Income for FY73 and FY74 (continued)

SOURCES	LOWER ASSUMPTIONS	HIGHER ASSUMPTIONS
6. Auxiliary Activities	(a) 10% increase per year in rents from Faculty/Staff housing; (b) 10% increase per year in married student housing; (c) 7% increase per year in Dormitory and Food Services charges (approx.); (d) 5% increase per year in other charges (approx.).	(a) Same as "Lower"; (b) Same as "Lower"; (c) Same as "Lower"; (d) Same as "Lower".
7. Service Departments	5% increase per year.	Same as "Lower".
8. Other (mainly income on current funds)	3% increase in FY73 and 6% in FY74.	(a) 6% increase in FY73 and FY74. (b) An additional $150,000 of capital gains in FY 74 per plan endorsed by Trustees.

APPENDIX TABLE B-2

PRINCIPAL ASSUMPTIONS UNDERLYING ALTERNATIVE PROJECTIONS OF EXPENDITURES FOR FY73 AND FY74

CATEGORIES	LOWER ASSUMPTIONS	HIGHER ASSUMPTIONS
1. Salary increases for all continuing personnel*/	6% increase per year in total salary pool; distribution to depend on considerations of merit, equity, and market conditions.	Same as "Lower".
2. Instructional Budget	(a) Number of faculty on general funds constant in FY73 and FY74; (b) Assistants in Instruction increase modestly according to Graduate School plan.	(a) Number of faculty increases 3% per year; (b) Same as "Lower".
3. Other Expenses of Academic Departments and Special Academic Programs	(a) 5% decrease in sponsored research per year; (b) Number of other personnel constant at FY72 level; (c) Operating expenses increase 3% per year.	(a) 5% increase in sponsored research per year; (b) Other personnel increase 3% per year; (c) Operating expenses increase 6% per year.
4. Graduate Fellowships	Graduate School Plan with 25% drop in outside income replaced from outside sources.	Graduate School Plan with 75% of drop in outside income replaced from outside sources.

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*/ We list this element of expenditure first to emphasize that increases for continuing personnel are excluded from all subsequent categories of expenditure.

Table B-2-Principal Assumptions Underlying Alternative Projections of Expenditures for FY73 and FY74 (continued)

CATEGORIES	LOWER ASSUMPTIONS	HIGHER ASSUMPTIONS
5. Undergraduate Student Aid	Increases according to middle Priorities Committee Plan after FY72.	Increases according to high Priorities Committee Plan after FY72.
6. Library	3% increase per year (approx.)	6% increase per year (approx.)
7. Computer Center	Computer Center's 11% Cut Plan (no new memory), but holding personnel constant.	Computer Center's 11% Cut Plan (no new memory).
8. Academic and General Adm., plus Security	(a) Number of personnel constant at FY72 level; (b) Operating expenses increase 3% per year.	(a) Number of administrative personnel increase 1.5% per year; number of security personnel increase 3% per year; (b) Operating expenses increase 6% per year.
9. Planning, Plant, and Properties	Plan recommended by Priorities Committee; rises in uncontrollable costs offset in part by reductions in personnel and other expenses.	Modification of "Lower" Plan to hold personnel constant rather than reduce personnel.
10. Athletics	(a) Number of personnel constant; (b) Operating expenses increase 3% per year.	(a) Same as "Lower". (b) Operating expenses increase 6% per year.
11. Dormitories and Food Services	Low Priorities Committee estimate (increases approx. 5% per year).	High Priorities Committee estimate (increases about 10% in FY73 and about 6 1/2% in FY74).

APPENDIX C

Princeton University: DEPARTMENT -- Office of the Provost

To Department Chairmen,
Heads of Departments,
Directors of Programs

DATE September 15, 1970

SUBJECT Guidelines for 1971-72 Budget Requests

FROM William G. Bowen

INTER-OFFICE CORRESPONDENCE

The forms for the 1971-72 operating budget will be distributed by Mr. Carl Schafer, Director of the Budget, just as soon as the necessary data are compiled -- hopefully within the next few days. The forms are much the same as last year, and they will be accompanied by a detailed set of instructions, including a time schedule.

The forms and the instructions for completing them do not, however, say anything about the particular financial circumstances now confronting the University or the implications of our present situation for budget requests. As many of you will recall, the report of the Priorities Committee distributed in January 1970 estimated a deficit for 1969-70 of approximately $300 thousand and projected a deficit for 1970-71 of $1.5 million. Unhappily, it has been necessary to revise both figures in the wrong direction. The accounts are now closed for fiscal year 1969-70, which ended June 30, and the final figures show a realized deficit almost $700 thousand larger than anticipated in January -- the actual figure being $985 thousand. The most recent projection for 1970-71 suggests a deficit for the current fiscal year of about $2.4 million -- almost $1 million larger than the earlier projection. Reductions in income expected from grants and contracts, from private giving, and from endowment are mainly responsible for these swings.

The figure of $2.4 million for 1970-71 is, of course, only a projection, and it may change again. There is little reason, however, to believe that it is more likely to decrease than to increase. If we do end the current fiscal year with a deficit of $2.4 million, the general reserve fund of the University, which stood at about $4 million before the 1969-70 fiscal year, will have been reduced to about $600 thousand in just two years. Furthermore, rough projections already made for 1971-72, based on one set of quite restrictive assumptions concerning expenditures, suggest a potential deficit in that year that is even larger than the deficit now projected for 1970-71.

It is against this somber background that the budget for 1971-72 must be determined. There is no doubt that we face extremely serious financial problems and that a number of painful decisions will have to be taken. Having experienced a period of unprecedented increases in both capital funds and operating income, especially from the late 1950's through 1968, we must now plan realistically for a period of consolidation and even some retrenchment.

It is important to realize that Princeton is by no means alone in this respect. All levels of government and nearly all colleges and universities, public and private, are having to recognize that available resources simply are not sufficient to undertake or continue many extremely meritorious activities. Among colleges and universities, Princeton is, as yet, much more fortunate than many. One important lesson to be learned from the recent experiences of others is that current financial problems are best faced head on, when they first appear, rather than after the situation has become so bad that even more drastic steps are unavoidable.

The implications of the present financial situation for budget requests have been considered within my office, by President Goheen, Mr. Mestres and the members of the Priorities Committee, as well as by the Director of the Budget, and the Executive Director of Administrative and Personnel Services. We have concluded that the interests of both those responsible for submitting budget requests and those responsible for reviewing them will be served by issuing some general guidelines. It would be in the interest of no one to have departments make numerous budget proposals which we knew in advance could not be funded.

Accordingly, in preparing budget proposals for fiscal year 1971-72 we ask:

--That you propose no net increases in academic or other staff.

--That you re-examine all present vacancies, and all vacancies known to be forthcoming due to resignations and retirements, to determine whether they can remain unfilled without jeopardizing essential functions.

--That you propose operating expense budgets no larger than those approved for the current year (1970-71). We recognize that this will mean "absorbing" inflationary cost increases through more efficient -- and in some cases curtailed -- operations.

--That you not plan to shift charges now paid from sponsored research and restricted departmental funds to the general funds budget.

--That you try, wherever feasible, to make fuller use of restricted funds so that general funds can be conserved for those activities which cannot be supported in any other way.

There is one important exception to the coverage of the first four of the above guidelines. They are not meant to apply to proposals which are to be financed from sponsored research grants or restricted funds on a continuing basis. Neither are they intended to constrain activities which can be funded from new "outside" sources.

We also recognize that there may be some exceptional circumstances in which the complete application of the first four guidelines would be severely damaging. In such cases, the memorandum accompanying your budget materials should explain the nature of these circumstances in some detail.

Finally, it should be said that the amount of funds available for salary increases for 1971-72, as well as for graduate fellowships and undergraduate student aid, will depend on the achievement of savings in other components of the budget. Achieving the necessary savings will not be an easy task, and your active cooperation will be essential. Only through the best efforts of everyone involved will it be possible to find sensible ways of responding to the financial problems confronting us.

W.G.B.

William G. Bowen

WGB/dm

APPENDIX D

A Study on the Economics of Student Dining and Dormitories

by

Mary E. Procter
James P. Mnookin

[N. B. Because of its dated nature and length -- 31 pages -- this appendix has not been included. Persons wishing copies of Appendix D should address their requests to the Office of the Provost, Nassau Hall, Princeton University.]

SECTION III

PRINCETON UNIVERSITY

REPORT OF THE PRIORITIES COMMITTEE TO THE PRESIDENT

Recommendations Concerning the Budget
for 1972-73

January 31, 1972

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INTRODUCTION

In the introduction to last year's report we stated two general themes, both of which bear repeating. First, Princeton, like virtually every other college and university in the United States, public and private, confronts long-run financial problems which will require difficult choices as far ahead as we can see. The deficits of the last few years are not the result of "chance" factors which can be expected to correct themselves; it is up to us to be realistic in recognizing our problems and effective in responding to them before they worsen. Second, in coping with these problems it seems better for Princeton to do a relatively small number of things, and to do them well, than to spread our resources so thinly that the result is a general decline in overall quality. In short, we are determined that Princeton shall continue to retain its position of academic leadership in carefully selected fields.

To these somber themes of last year we are now able to add a tone of encouragement, though certainly not of complacency. Thanks to the efforts of a great many people, inside and outside the University, the trend toward ever-rising deficits appears to have been reversed. (Confirmation will come, we hope, when the final results are in for the current year.) Moreover, we believe that with continued backing from the faculty, staff, and students, combined with a sustained effort on the part of alumni and other friends to increase their support and a reasonable amount of good luck, it should be possible to achieve the fiscal objective set last year: a budget in approximate balance by 1973-74. Most important of all, we are, if anything, more confident than before that this can be done without sacrificing the still more significant objective: sustaining the quality of our programs of instruction and research. The revisions to last year's provisional plan recommended in this report represent some additional support for critical areas -- most notably the graduate program and the library.

As will be evident from the discussion that follows, sustaining the quality of education and scholarly contributions at Princeton will be no easy task. Even so, we should not be satisfied with simply holding our own -- we must continue to reach out for ways to improve the University.

* * * * * * * *

One of the purposes of the very long report of the Priorities Committee issued last year was to provide a point of departure for subsequent efforts. It would be neither practicable nor sensible to attempt every year to conduct the kind of exhaustive review which occurred in 1970-71 or to report in such detail on virtually every facet of the University's operations. Accordingly, this year's report is considerably shorter than its predecessor and is organized somewhat differently.

The first main section does follow past practice, in that it contains a description of the work of the Committee.

The second section describes the overall financial situation of the University as it now appears to us and includes a summary of recommendations for 1972-73 and projections through 1975-76 as well as a brief recapitulation of guiding principles. It does not contain all of the historical material or the analysis of long-term trends presented last year.

The third section is divided into two principal parts, the first of which consists of a detailed discussion of the major respects in which we recommend modifications of the plans set forth last year. The topics covered here are: (1) the graduate school; (2) the library; (3) the theater program, including McCarter Theatre; (4) undergraduate dormitories and dining; and (5) faculty and staff housing. The latter half of this section contains a series of brief comments on other areas, which, while of continuing importance and concern, have not seemed to us to require major modifications in either policy recommendations or financial assumptions.

Finally, appended to the report are summary tables showing income and expenditures as budgeted for 1971-72 and as recommended for 1972-73.

* * * * * * * *

In submitting this report to the President, the members of the Committee wish to thank, again this year, the Deans and heads of offices whose cooperation in providing information, answering questions, and discussing sensitive issues candidly has been so essential to our work. We have also benefited greatly from the contributions of those individuals who have met regularly with us, either at the suggestion of the Executive Committee of the Council or as stipulated in the Charter of the Council: Mr. Henry Bessire, Vice-President for Development; Dr. Thomas Davis, Assistant to the Provost for Resource Planning; Mr. Anthony Maruca, Executive Director of Administrative and Personnel Services, and Mr. Carl Schafer, Director of the Budget. Dr. Davis and Mr. Schafer assumed responsibility, respectively, for forward planning and for the work related to the budget year, and their efforts have been indispensable in clarifying the real issues and choices before us. In discharging these responsibilities, they have relied heavily on the Controller's Office and other administrative departments. The Committee is also indebted to Dr. Richard Spies, especially for his assistance with the analysis of dormitories and food services. Finally, the Committee wishes to express its thanks to Mr. James Mnookin, who has served ably as Secretary of the Committee for the second year and who also has made many substantive contributions to our work.

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(continued)

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I. THE WORK OF THE PRIORITIES COMMITTEE

In order to provide background information for new members of the University community and for persons unfamiliar with last year's report, we thought it might be helpful at the outset to restate the nature and purposes of our Committee.

The Priorities Committee is one of seven charter committees of the Council of the Princeton University Community. Its members are nominated by the Executive Committee of the Council (chaired by the President) and approved by the Council as a whole. As stipulated in the Charter of the Council, the Priorities Committee has sixteen regular members: three administrative officers serving ex officio (the Provost, who is the chairman, the Dean of the Faculty, and the Financial Vice-President and Treasurer); six faculty members (including at least one from each of the four academic divisions of the University and at least one non-tenure member); four undergraduate students; two graduate students; and one representative of other groups (the administrative staff in the case of this year's Committee). In addition, the Director of the Budget, the Vice-President for Development, the Assistant to the Provost for Resource Planning, and the Executive Director of Administrative and Personnel Services meet regularly with the Committee. The Charter also provides that the President shall meet with the Committee as often as his schedule permits.

The first and most basic function of the Priorities Committee is to advise the President, and it is understood by all members that the President is free to accept, reject, or modify the recommendations of the Committee before submitting his own recommendations to the Board of Trustees. In the course of developing recommendations for the President, the members of the Priorities Committee have an unusual opportunity to learn a great deal about University finances, and the second function of the

Committee is to share this understanding with other members of the University community. This process of communication is meant to work in both directions; the members bring back to the Committee the special concerns and viewpoints of other members of the University community while at the same time helping to provide others with the broader perspective needed to understand why a particular course of action is being recommended.

By its nature, the Priorities Committee is an on-going body. Plans and commitments have to extend well into the future, and the questions at issue are so numerous, wide-ranging, and complex that it would be impossible in any event to conduct anew a full-scale examination of all elements of the University's budget every year. The need for continuity in the membership of the Priorities Committee was recognized in the Charter, where provision was made for staggered terms of three year's duration. Because of leaves of absence, unanticipated changes in personal plans, and so on, it has proved to be even more difficult to achieve a reasonable degree of continuity than originally envisioned. This year eight of the sixteen regular members had served previously on the Committee, and we hope that at least this degree of continuity can be maintained.

As was the case last year, we began work in September by discussing the overall financial outlook for the University and by reviewing a set of guidelines subsequently sent to the heads of all departments by the Provost (reproduced as Appendix B of this report). At these early meetings we also agreed on the procedures to be followed by the Committee and on a rough agenda of topics to be considered throughout the fall.

Our schedule of regular meetings, at which substantive issues were discussed, began October 6 and continued on a weekly and then semiweekly basis through the middle of December. All told, the Committee has met sixteen times so far this year (including two joint meetings with the Policy and Budget Subcommittee of the Trustee Finance Committee).

The specific subjects discussed at these meetings -- some of them covered at more than one meeting -- included:

(1) the future of the theater program, including McCarter Theatre;
(2) faculty and staff housing;
(3) faculty manning and research;
(4) special academic programs;
(5) tuition policy;
(6) undergraduate student aid;
(7) graduate student aid and related questions;
(8) the library;
(9) the computer center;
(10) dormitories and food services;
(11) athletics;
(12) the operation and maintenance of the physical plant;
(13) academic administration and student services (including health services);
(14) general administration;
(15) faculty and staff salary pools.

In addition, the Committee received a series of estimates of the overall budgetary situation as revised figures became available, and considerable time has been spent discussing broad questions of financial policy and planning as well as the more specific subjects listed above.

A major difference in the work of the Committee this year as compared with last year is that this September we were able to start with the provisional plan developed in 1970-71 and approved by the Board of Trustees last spring. Thus, as we considered each major area of the budget we compared the requests submitted by department heads or Deans with the provisional plan and asked ourselves whether modifications were necessary in the light of changed circumstances or new information. In some important instances we concluded that modifications in the provisional plan were necessary and we then devoted a large proportion of our time to the development of revised plans for these areas. This was especially true of graduate student support, the theater program, undergraduate dormitories and dining, and the library.

One other respect in which the work of the Committee this year has differed from last year's experience relates to national economic policy. Since August 1971, when President Nixon announced "Phase I" of his new economic program, our discussion of University policy has been complicated by the need to comply with an evolving -- and sometimes perplexing -- set of governmental regulations. This continues to be true under "Phase II," and this additional source of uncertainty means that all of the usual caveats concerning margins of error must be underscored. Particularly in the case of projections beyond 1972-73, it is difficult to know how, and to what degree, University planning will be circumscribed by national economic policies yet to be developed.

In addition to discussing all of these matters among ourselves, a delegation from the Priorities Committee met twice with representatives of the newly formed Policy and Budget Subcommittee of the Committee on Finance of the Board of Trustees. The first of these meetings provided an opportunity for a wide-ranging discussion of areas of particular concern to members of the Priorities Committee and to the Trustees. Topics discussed ranged from graduate student support to the implications of "Phase II" for salary policies. By the time of the second meeting we knew a good deal more about the specific recommendations we expected to present to the President and it was therefore possible to exchange views on rather specific proposals before they were put in final form. This was very helpful to our Committee and, we hope, to the Trustees as well. Certainly the best interests of the University require that there be the closest possible coordination and cooperation among the Priorities Committee, the President, and the Trustees.

It remains only to say a few words about the most important and least tangible aspects of the work of the Priorities Committee -- the tone and character of our meetings and the spirit with which we have tried to approach our task. This year, as in previous years, we have had uninhibited and frank discussions of all issues. Quite diverse viewpoints have been expressed, pointed exchanges have occurred, and we have not hesitated to argue. At the same time, our meetings have been characterized by a remarkable degree of mutual respect and good will. Most important of all, we have learned from each other.

The recommendations contained in this report represent the results of our combined efforts to think through what is best for the University as a whole. There has been very little special pleading, and there have been no instances in which we have even come close to splitting along "constituency" lines -- administrators versus faculty versus students. Of course, it would be surprising -- perhaps, indeed, frightening -- if all sixteen of us felt exactly the same way about a long list of complex questions, and this year, as in the past, there has not been complete agreement on each and every particular. In fact, however, the differences among us have been remarkably few and then very narrowly defined. The recommendations presented here reflect a strong degree of consensus among all members of the Committee. We hope that they will have the general support of all elements of the University community.

II. THE UNIVERSITY'S OVERALL FINANCIAL SITUATION: ASSESSMENT, RECOMMENDATIONS, AND PROSPECTS

In this section we shall first review the outlook for the current year, then present our recommendations for 1972-73 (FY 73), and end by discussing our revised projections through FY 76 and their broad implications for the educational program of the University.

FY 72: The Outlook Now as Contrasted with the Outlook One Year Ago

At the time that last year's report of the Priorities Committee was prepared, the University expected a deficit of $2.5 million for FY 71. The recommendations then made by the Priorities Committee, and subsequently endorsed by the President and approved by the Board of Trustees, implied a deficit of $1.2 million in FY 72.

As our Committee began its work this fall, we were encouraged to learn that the final results for FY 71 were appreciably better than had been expected; the actual deficit was $1.5 million rather than $2.5 million. We shall not take time here to relate again in detail the reasons for this swing since they are discussed in the statement of guidelines released last fall which is appended to this report. Suffice it to say that three factors combined to bring about this result: (1) sponsored research support held up better than anticipated; (2) Annual Giving did very well, raising nearly $3.4 million rather than the $3.1 million which had been used as a planning figure; and (3) most important of all, the substantial programs of cost reduction recommended by the Priorities Committee for 1971-72 began to take effect right away, in FY 71, as vacancies were left unfilled and services were curtailed.

This dramatic improvement in the results for FY 71 of course led to revised estimates for FY 72 as well. In fact, the figures for FY 72 have been revised several times this year and will be revised still more as the results for the first part of the year come to be known. The most recent estimates suggest a deficit for the current year of just over $500, 000 after taking account of the various effects of Phase II of President Nixon's economic program, as these are now understood.

The current outlook, as contrasted with our estimates of a year ago, is shown graphically in Figure 1. It must be emphasized that the figures for FY 72 are still provisional. They are based on updates of budgeted figures, not on actual experience thus far this year. In a budget of over $70 million, a net change of just 1 percentage point in the balance between expenditures and income produces a swing in the deficit of more than $700, 000 -- an amount large enough, if applied to our current forecast for FY 72, to result in a final figure for the year of anywhere from a surplus of $200, 000 to a deficit as large as the original estimate of $1. 2 million.

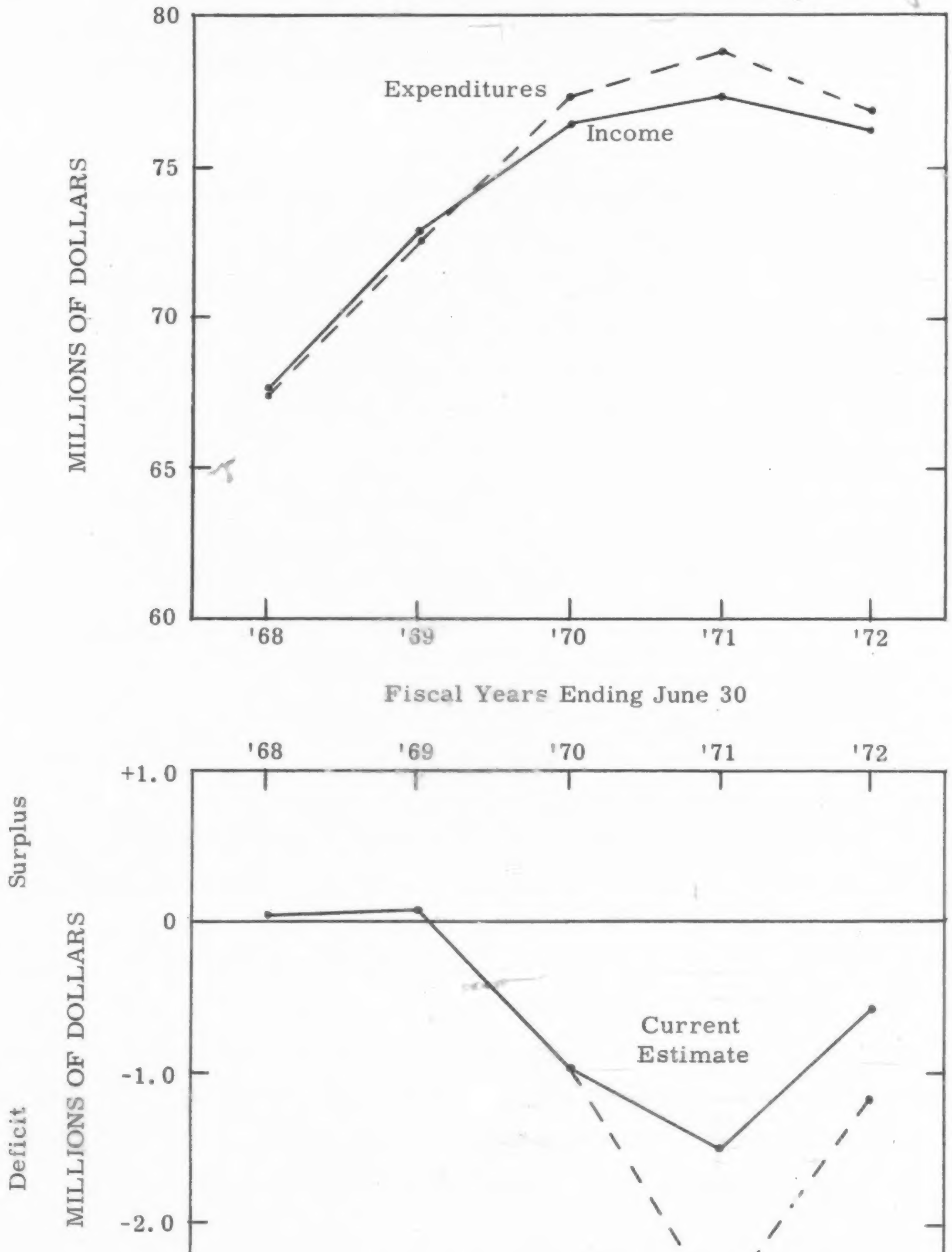
In any event, what is most relevant from the standpoint of University policy is not so much the multitude of factors, some fortuitous, which cause changes in successive estimates for any one year, but the underlying events and policy decisions that lead to major changes from one year to the next. Thus, what deserves emphasis is the fact that our current "best guess" for FY 72, a deficit of about $500, 000, represents an improvement of $1 million over the final results for FY 71.

The principal reasons for this improvement are:

(1) Increased undergraduate enrollment without a proportionate increase in either faculty or administrative staff;

(2) Increased charges for tuition, room and board, and faculty and staff housing to the extent permitted under Phase I and Phase II;

FIGURE 1
Princeton University Operating Budget
Total Expenditures and Total Income
Surpluses and Deficits
FY 68 - FY 72



(3) Most significant of all, the extent to which the University has held the line on increases in expenditures in almost every area of activity. In many cases there have been reductions in the "base level" of activity (principally in planning, plant, and properties; in dormitories and food services; in selected administrative areas; and in some academic and athletic programs).

Recommendations for FY 73

It is against this background that our Committee has worked on budget recommendations for FY 73. We recognized that we could continue to make progress toward our goal of an approximately balanced budget for FY 74 only by applying once again an extremely rigorous standard in evaluating departmental requests.

A further background factor which has contributed in no small measure to the need for an austere approach is the fact that the rate of return on our invested endowment funds is not expected to increase for FY 73. (The endowment earnings to be spent next year are accruing in the year ending in May 1972, and on the basis of the trend to date there seems no basis for predicting an increase in income per unit of endowment.[*] We do expect, however, some increase in income as a result of a larger total endowment.)

In any event, we have found it necessary to recommend reductions of some three-quarters of a million dollars in the initial requests received from academic and non-academic departments, mainly in reliance upon detailed studies by the deans and other senior administrative officers. To be sure, most of these reductions occurred in those situations in which the amounts requested were in excess of the guidelines provided (see Appendix B). Nevertheless there were good reasons for almost all of the requests, and it was not easy to recommend smaller amounts.

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[*] In the six months ending November 30, 1971, per unit income received actually fell short of the comparable year-ago total by nearly 4%.

In proposing these reductions -- and in making all of the recommendations detailed in the balance of this report -- the committee has tried to continue to follow certain guiding principles. These precepts are the same as those enunciated a year ago, although the emphasis placed on one or another of them has varied from area to area.

We remain determined, first of all, to maintain the quality of Princeton as a University committed to providing excellent educational programs at both undergraduate and graduate levels in carefully selected fields. This implies a need, as we said in last year's report, to pay particular attention to certain central elements of the University:

- An excellent faculty which includes outstanding assistant professors as well as established scholars;
- Undergraduate and graduate student bodies which reflect excellence and diversity measured along many dimensions;
- An excellent library which is devoted not simply to collecting books and other materials but also to making them accessible;
- The basic tools of instruction and research, including a high quality computing facility;
- Residential and dining arrangements which contribute to the educational purposes of the University;
- A full range of opportunities to participate in athletics and other extracurricular activities;
- Effective administrative and supporting services of all kinds, including an organization capable of finding and managing the financial resources on which all other activities depend.

Second, we believe that the proper response to fiscal austerity is, if need be, to do a smaller number of things very well, rather than accept general, across-the-board reduction in the quality of our programs. Several reductions in the University's base of operations were proposed in last year's report and subsequently approved, and more have occurred -- on a highly selective basis -- since that time.

Third, we continue to believe that special attention must be paid to considerations of equity and fairness to individuals in adjusting to straitened circumstances. This principle has had a strong influence upon our recommendations for student aid and housing rentals, for example, as well as on our recommendations regarding salary policies.

Fourth, we have tried to be particularly careful not to make recommendations whose effect would be to force upon the University, at some future time, commitments greater than are sustainable under present and foreseeable circumstances. This "falling-off-the-cliff" principle has had to weigh heavily in our consideration of student aid problems -- particularly at the graduate level -- and in our thinking about the future of the Computer Center.

Finally, our last principle is simply concern for the future health of the University as a whole. This precept may be considered to subsume elements of the other principles as well, but it has served particularly to warn us against recommending false economies, such as deferring needed maintenance of buildings or failing to allocate sufficient resources to fund-raising activities.

The ways in which we have attempted to apply these principles to the multiplicity of University activities and needs are indicated in the next section of this report where each of our major recommendations is discussed. A very brief summary of these recommendations is included here in the interests of providing something of an overall view of the FY 73 budget as we now see it.

Our first set of recommendations consists of five important modifications to the provisional plan adopted a year ago:

(1) We recommend augmenting considerably our support of graduate education from University funds, in partial substitution for outside funds which are expected to continue to decline precipitously.

(2) We recommend providing for a somewhat more rapid build-up in general funds support for the Library than was approved last year, in recognition of the rising cost of books and periodicals.

(3) We recommend planning on the return of a resident repertory company to McCarter Theatre next year -- following a one-year absence -- with the hope of at least partial support from new sources of outside income.

(4) We recommend that the undergraduate room charge be increased $15, rather than the $100 combined increase in room and board fees suggested in last year's report. This increase is related to the costs of adopting a limited and experimental approach to the release of some sophomores from University meal contracts, as proposed by the Committee on Undergraduate Life.

(5) We should expect to increase rentals on faculty, staff, and married graduate student housing by about 5% rather than by 10% as recommended in last year's report, as a consequence of government regulations. Continued progress should be made toward the goal of equalizing the rentals for comparable faculty and staff dwelling units and toward the reduction of operating deficits, as government policy allows.

The remainder of our recommendations serve to reaffirm policies adopted last year:

(1) We recommend that tuition be increased by $250 at both the undergraduate and graduate levels, in accord with the provisional plan adopted last year.

(2) We recommend that the size of the faculty be allowed to rise modestly from present actual manning levels, although not from the authorized strength recommended last year.

(3) We recommend that sufficient additional undergraduate student aid funds be provided to continue the financial aid policies followed in recent years, with continuing emphasis on both self-help through loans and jobs and on scholarship assistance. No cutback in the proportion of students receiving scholarship aid is envisioned.

(4) We recommend sustaining our support for the Computer Center at about the present level; however, we should begin now to plan for appropriate response to the impending termination of one of the Center's major outside sources of income.

(5) We recommend providing for a modest increase in the Athletics budget in response to the strong interest in these programs on the part of women students; in all other respects last year's provisional plan for Athletics should continue to be followed.

(6) We recommend that provision be made for modest improvements in certain student services, particularly in student health insurance coverage and the Counseling Service. However, in general, a tight rein should continue to be held on all supporting services, except to the extent that increases may be mandated by new legal requirements (such as the newly-enacted occupational safety law) or required by organizational changes or other compelling circumstances.

(7) Finally, we recommend that larger provision be made for wage and salary increases -- beginning with an overall pool of 5 1/2% as permitted by Phase II -- after the extremely austere policy followed last year in this area, especially at the higher salary levels.

Projections Through FY 76

All of the uncertainties of the future discussed earlier -- the rate of return on our invested endowment funds, the nature of government programs (the level of appropriations as well as the extent of controls), and so on -- apply with even greater force to the years beyond FY 73. But we continue to believe that it is nonetheless absolutely essential to look beyond the immediate consequences of our recommendations. For one thing, some problems (the termination of a large term grant for graduate student support, to cite a major example) can be dealt with effectively only by taking appropriate action before, not after, the crisis is upon us. For another thing, a perspective of several years is needed to judge whether a budget deficit for a particular year can be accepted.

Thus, the Committee has updated the provisional plan of a year ago, and has extended it two more years into the future, through FY 76. The plan is summarized in Table 1, depicted graphically in Figure 2, and the principal assumptions underlying it are shown in Table 2.

Table 1
Provisional Plan
Operating Budgets
FY 73 through FY 76
($ thousands)

	FY 73	FY 74	FY 75	FY 76
Income	79,584	83,691	87,416	90,901
Expenditures	80,079	83,689	87,428	90,947
Surplus (deficit)	(495)	2	(12)	(46)

FIGURE 2
Princeton University Operating Budget
Total Expenditures and Total Income
Surpluses and Deficits
FY 68 - FY 76

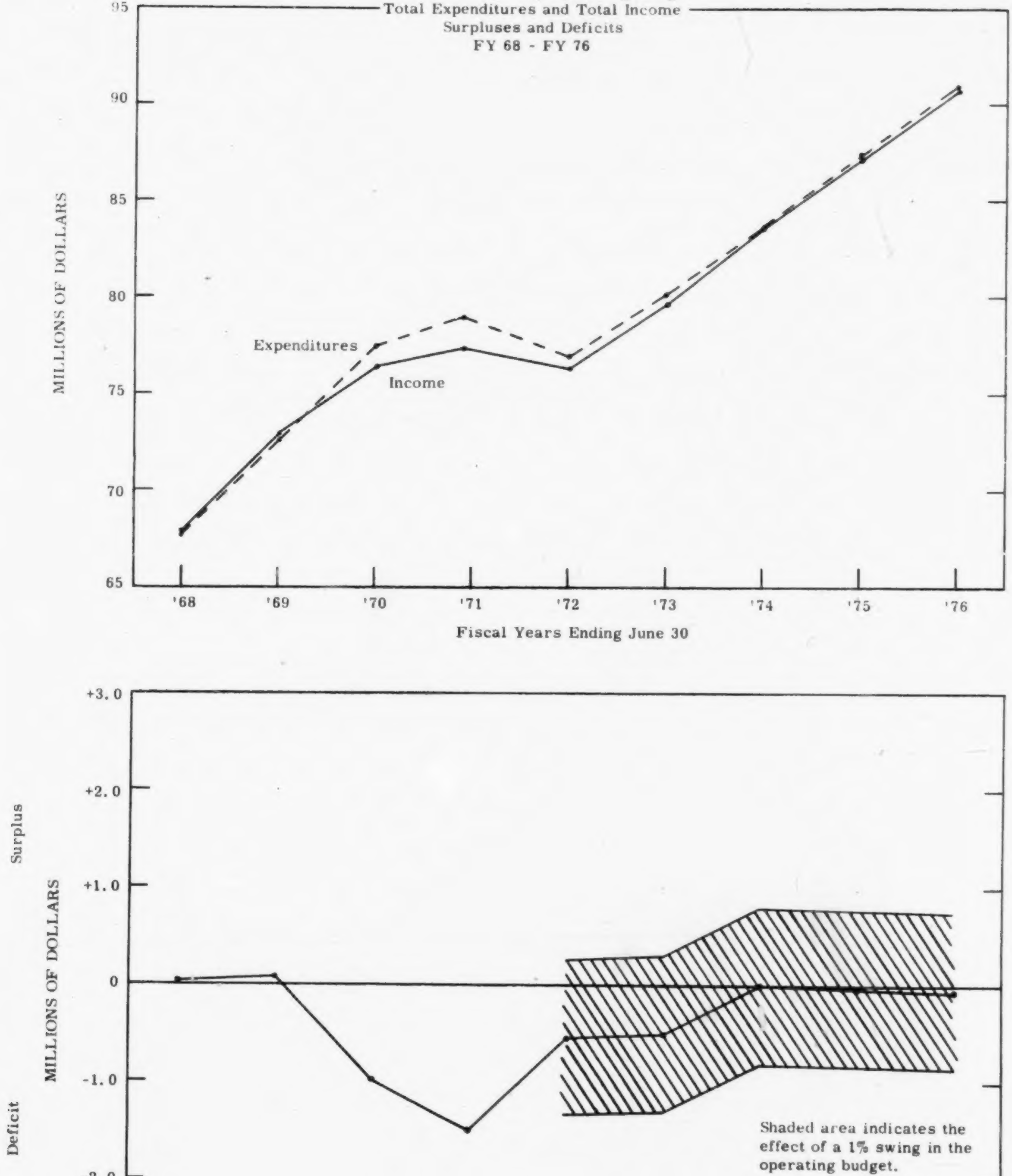


Table 2
Principal Assumptions Underlying Provisional Plan for FY 74, FY 75, and FY 76

Income

1. Endowment
   - a. $5 million per year increase in principal.
   - b. 6% increase in income per unit per year, as traditionally defined.
   - c. About $350,000 in capital gains utilized per year, in accordance with the new total return concept[*] expected to begin in FY 74.

2. Tuition
   - a. Undergraduate enrollment increases about 100 students per year through FY 75 and decreases slightly in FY 76.
   - b. Graduate enrollment drops from about 1370 in FY 73 to about 1300 the remaining three years.
   - c. Tuition increases $250 per year in FY 73 and FY 74, and $200 per year the last two years.

3. Contracts and Grants for Sponsored Projects
   Increase from 2% to 5% per year.

4. Annual Giving
   Increases by $200,000 per year.

5. Other Gifts and Grants
   Current major term grants that end will be replaced at a 25% level. (Note, in particular, that the Ford Fellowship grant ends in FY 73.)

6. Auxiliary Activities
   - a. 5% increase per year in rents plus equalization for Faculty and Staff Housing.
   - b. 5% increase per year in Married Student Housing.
   - c. A $15 increase in the undergraduate room charge for FY 73 with likely increases in room and board combined of $50, $70, and $80 respectively for the following three years.
   - d. Graduate College charges increase slightly less than 7% per year.

7. The Computer Center loses the Geophysical Fluid Dynamics Laboratory support of about $600,000 per year at the end of FY 73. Income from the other service departments increases by 5% per year.

8. Other (mainly income on current funds)
   6% increase per year plus about $100,000 in capital gains per year.

---

[*] This concept treats as income not only dividends and interest received, but also a prudent portion of capital gains.

Table 2 (continued)

Expenses

1. Instructional Budget
   - a. The number of faculty on general funds increases at approximately 2% per year through FY 75 and remains constant in FY 76.
   - b. Assistants in Instruction increase at about 3% per year.

2. Other Expenses of Academic Departments and Special Academic Programs
   - a. Sponsored research expense increases from 2% to 5% per year.
   - b. The number of other personnel remains constant at FY 73 level.
   - c. Operating expenses increase 3% per year.

3. Graduate Fellowships
   - a. Outside fellowship support decreases as shown in Figure 3 in the text.
   - b. University support increases by 18% in FY 73, 40% in FY 74, and about 8% in each of the following two years. These percentages are somewhat higher than the percentage figures cited in the discussion of graduate education in Section III of the report because the latter figures include costs other than fellowships (teaching assistants, housing and dining deficits, and the like), which increase less rapidly.

4. Undergraduate Student Aid

   Increases as tuition and room and board charges increase in order to maintain the current percentage of students on aid. Self-help expectations are as follows:
   - a. Loan expectation increases $100 per year.
   - b. Income from employment during the academic year increases 6% per year.
   - c. Summer earnings and family contribution each increase 5% per year.

5. Library
   - a. Funds for acquisitions increase by 7 1/2% per year for FY 73 and FY 74 and then by 10 1/2% the last two years.
   - b. The number of personnel increases approximately 2% in FY 73 and FY 74 and 3% the last two years.
   - c. Operating expenses increase at about 3% per year.

6. Computer Center, Security, and Other
   - a. The number of personnel remains constant at the FY 73 level.
   - b. Operating expenses increase 3% per year.

Table 2 (continued)

7. Academic and General Administration
    a. A small increase in the number of positions (about 1 1/2% in FY 74 and FY 75; no increase in FY 76).
    b. Operating expenses increase 3% per year.

8. Planning, Plant, and Properties
    Plan recommended by the Priorities Committee; increases in uncontrollable costs are offset in part by reductions in personnel and other expenses.

9. Athletics
    a. The number of personnel remains roughly constant.
    b. Operating expenses increase 3% per year.

10. Dormitory and Food Services
    Increase by 2% to 3% per year.

11. Salary increases for all continuing personnel
    5 1/2% increase per year in total salary pool. The distribution will depend on considerations of merit, equity, and market conditions.

It is evident, of course, that many other sets of assumptions could have been employed, with marked effects on the results in either direction. One of our continuing objectives is to seek to refine the forward planning for various elements of the University so as to reduce to a minimum the need to employ simple extrapolations. Some idea of the sensitivity of these projections to changes of assumptions may be seen from three simple examples:

-- If major expiring term grants were to be replaced at the 50% rather than the 25% level, the projected deficit of $46, 000 in FY 76 would turn into a surplus of nearly $300, 000.

-- If inflationary cost increases were to require an increase of 4% rather than 3% in operating expenses each year, the FY 76 deficit of $46, 000 would become a much larger deficit of about $500, 000.

-- If endowment income, as traditionally defined, were to increase only 4% per year, rather than 6%, all other things equal, there would be a deficit of over $900, 000 in FY 76.

In addition to these usual kinds of uncertainties, which will always subject the deficit to an uncertain margin of error, there are two other imponderables which have an important bearing on future budgets.

First, the Bressler Commission on the Future of the College has before it a number of far-reaching proposals which have important educational and financial implications.

Secondly, there continue to be major uncertainties concerning the future financing of higher education generally throughout the United States. In particular, it is always very difficult to forecast the actions of Congress and the state legislature.

For all of these reasons, the importance of the shaded area around the surplus-deficit line on Figure 2, indicating the presence of uncertainty, needs to be stressed: a net swing of 1% in the operating budget could occur easily.

The Need for Additional Support

As we look at these projections through FY 76, it is not only the uncertainty surrounding them that deserves emphasis. The assumptions underlying these projections imply a continuation of severe restrictions on the budgets of all academic and other departments. No one should think that because we have projected an approximately balanced budget in FY 74, FY 75, and FY 76 we have thereby "solved" the University's financial problem.

As we have said in our two previous reports, Princeton remains very much a place in which faculty study, write, and work directly with both undergraduate and graduate students. In such a setting, cost per student is bound to rise over the long run, as salaries go up, even though the rate of increase may be slowed for short periods by vigorous economy drives and for the long period by some modest growth in enrollment. Moreover, while we believe that the University can maintain itself over a relatively short period on a largely standstill basis, with regard to both the development of new fields and the strengthening of established areas, the momentum, the tone, and quality of the University -- all these would be threatened by a prolonged moratorium on new developments.

Accordingly, all members of the Priorities Committee believe that there must be no slackening in the effort to find more resources for Princeton. Over the long run, it is only by finding more funds that it will be possible for us to meet our many obligations: to students, to scholarship, and to the larger society. We know that this conviction is shared fully by the Board of Trustees, and those of us in the resident University community must do all that we can to help with the essential task of enlisting support for Princeton and, indeed, for all of higher education.

III. RECOMMENDATIONS FOR SPECIFIC AREAS

Our recommendations for specific areas are divided into two main categories. First, we discuss five areas in which our provisional plans have changed significantly since our report of a year ago, either because the Committee now recommends that a new or modified policy be followed, or simply because altered circumstances now seem to require us to take a somewhat different approach. Secondly, we discuss more briefly some other major components of the budget for which present plans are essentially unchanged from those adopted a year ago.

A. Major Alterations to the Provisional Plan

1. Support of Graduate Education. -- Those familiar with this Committee's reports of the last two years will remember that they described a series of major changes in Princeton's graduate program -- changes similar to those that have occurred at almost all major universities in response to common problems. First, the earlier plan to increase graduate enrollment at Princeton, ultimately to a level of 1,700, had to be abandoned; instead, the size of the Graduate School was reduced to about 1,400 students. In addition, a "means test" was instituted at the graduate level, and entering students were no longer promised four years of support; instead, a policy of increased reliance on self-help with more widespread use of student loans and employment was instituted.

Even with the adoption of stringent measures such as these, it has been found necessary to increase sharply the appropriation of University funds for the graduate program. Increased use of general funds for the support of graduate students was one of the top priorities reflected in the recommendations made last year by our Committee. Looking to the future, our provisional plan assumed a compounded annual increase of 7% in the Graduate School's use of endowed and general funds combined.

Indeed, the call upon general funds alone was expected to increase even more rapidly -- on the order of 10% per year.

One need not look far to find the reason why such steps have been necessary. The problem, simply stated, is this: outside support for graduate education has fallen off dramatically, and at the very time when the overall financial squeeze confronting higher education has made it most difficult to commit large amounts of the University's own resources to filling the gap.

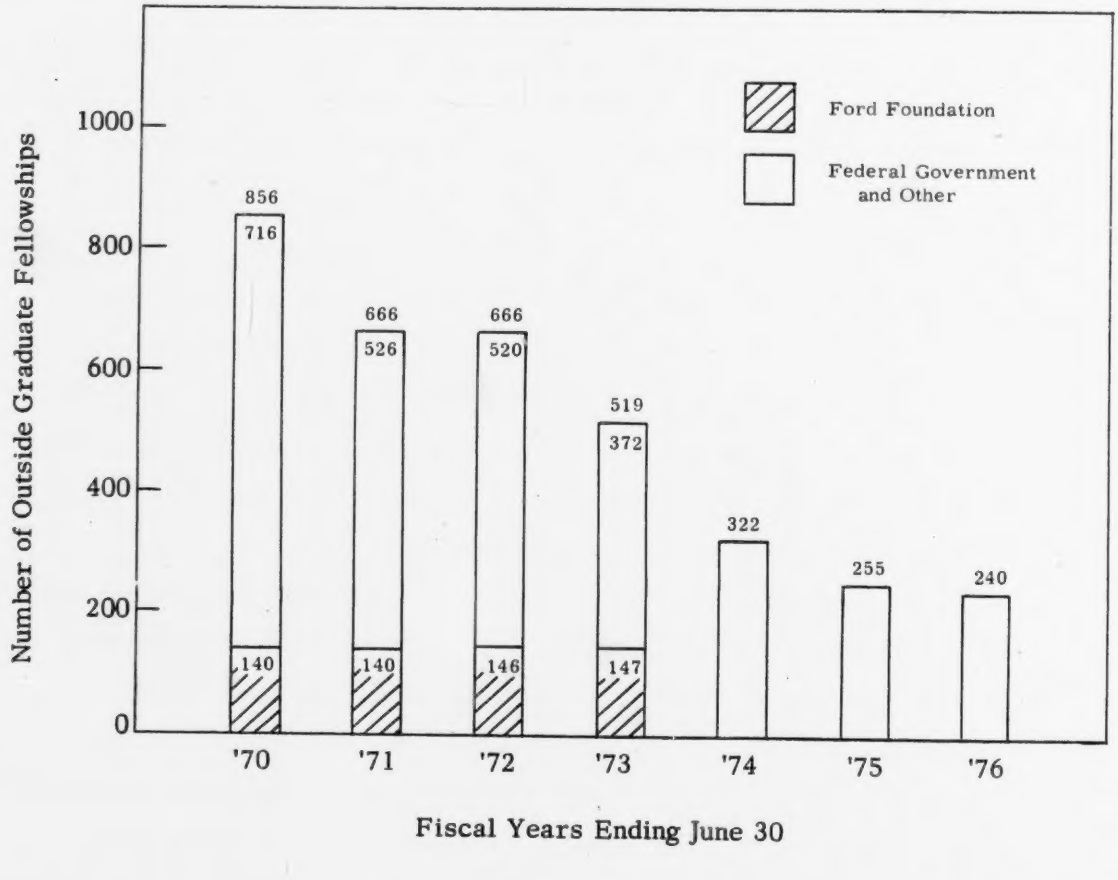
The decline in outside support is a national problem. In Princeton's own case the numbers speak for themselves (see Figure 3). This figure shows the extraordinary reduction -- actual and forecast -- in virtually all sources of outside support. A large part of this cutback has occurred in the various U. S. government fellowship programs. But the dilemma portrayed most starkly in the figure is posed by the end of a seven-year term grant from the Ford Foundation in FY 73 on top of the precipitous decline in other outside support, largely governmental. Put in financial terms, the Ford grant provides nearly three-quarters of a million dollars in FY 73, and nothing thereafter.

The reasons for the striking contraction of support are many and have been discussed in other contexts. For example, the widely publicized shortage of jobs for graduates in some fields has reduced the priority accorded graduate education, especially by the federal government.

In attempting to cope with this situation, and to apply the general principles discussed in the last section to this exceedingly perplexing problem, the Committee has had three interrelated goals in mind:

(1) Princeton, we feel, must continue to have an outstanding Graduate School. This is an extremely important objective, first, because this University continues to be in a particularly strong position to contribute to the long-run national need for well educated scholars and teachers. The most recent survey of the American Council on Education has demonstrated once again the extraordinary standing --

FIGURE 3
Number of Outside
Graduate Fellowships



and importance -- of graduate programs in all divisions of the University. Secondly, a strong graduate program is indispensable in order to attract and hold a faculty of first rank. Finally, the quality of the graduate program in turn makes both direct and indirect contributions to the excellence of the undergraduate college which would be hard to overestimate.

(2) To achieve this goal of continued excellence requires that the Graduate School be of some minimum size. The dynamics of graduate education are such that below some critical level, there are so few students in each department that a viable program is just not possible. Seminars can be too small as well as too large from a strictly educational standpoint. Also, it is no exaggeration to state that students at the graduate level often learn as much from each other as they do from their professors. Thus, sustaining a "critical mass" is imperative for reasons of educational quality as well as for more mundane reasons having to do with the effective use of the very scarce talents and very costly resources required for graduate education.

(3) Princeton must continue to be able to attract outstanding graduate students. Thus, we must not fall behind other universities in providing fellowships and other financial assistance. Moreover, we must recognize the limits on the financial sacrifices that we can expect of graduate students and their families.

The Dean of the Graduate School and his staff have worked closely with the Provost in developing a variety of possible responses to the financial problems of the next four years. There are many possible tradeoffs between the total size of the school, the amounts and distributions of various types of support for individual students, the level of general and endowed funds provided, and support provided to underwrite housing and dining operations related to the needs of graduate students. These alternatives have been discussed at great length by the Committee (indeed, more time was devoted to this subject than to any other). Clearly, the plan finally recommended by the Committee, as summarized below, does not represent the only possible combination of all these elements. But we believe it strikes a reasonable balance among them, is consistent with our recommendations in other areas, and offers hope of achieving our basic educational goals.

In brief, the Committee recommends the total Graduate School size and pattern of student support indicated in the following table:

Table 3
Recommended Pattern of Graduate Student Support
(number of students)

	FY 72	FY 73	FY 74	FY 75	FY 76
1. Teaching and research assistants, assistant masters, and holders of fellowships funded from outside funds	1,076	937	747	687	677
2. University fellowships providing at least full tuition ("A" through "D" fellowships)[*]	269	267	378	403	412
3. New "E" fellowship supplying one-half tuition[*]	---	90	123	148	164
4. Total supported	1,345	1,294	1,248	1,238	1,253
5. Not supported	50	79	61	60	62
6. Grand Total	1,395	1,373	1,309	1,298	1,315

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[*] In Princeton parlance, the various categories of fellowships have the following meanings: "A" fellowship (from special funds only): $2,200 plus tuition; "B" fellowship: $1,800 plus tuition; "C" fellowship: $900 plus a $900 loan and tuition; "D" fellowship: an $1,800 loan plus tuition; "E" fellowship: an $1,800 loan plus one-half tuition.

These figures are based on a detailed analysis and set of proposals prepared by Dean Lemonick. Needless to say, the numbers shown should be regarded only as approximations. Also, some detail is masked -- for example, the proportions of the various types of fellowships ("A" through "D") will no doubt vary somewhat from year to year. Nevertheless, we believe that this table depicts a coherent plan, which has the following important features:

(1) Size is at or above the "critical mass" in the judgment of the Dean of the Graduate School. Based on detailed discussions with every department, the Dean has concluded that this threshold is reached at about the level of 1,300 students.

(2) The number of students shown as "not supported" on line 5 of the table seems attainable. The Committee has been particularly sensitive to the danger of being too optimistic in this respect, since the proportion of admitted students who actually come to Princeton may be expected to be much lower in this group than among those offered some form of assistance. Needless to say, we would welcome more than the numbers of "not supported" students shown if additional qualified candidates are willing and able to come.

(3) Based on admittedly fragmentary data, we are nevertheless fairly confident that the other major universities -- and particularly the other private universities -- will be in approximately the same situation as a result of their own severe financial problems. We expect that Princeton will at least maintain its competitive position if these recommendations are adopted.

(4) The inclusion of a new one-half tuition fellowship and loan (the so-called "E" fellowship) in the plan is frankly experimental. Experience will demonstrate whether it should have a permanent place in our scheme of support.

(5) Our plan also assumes that the charges to sponsored research contracts for the employment of graduate students as assistants

in research will be set so as to prevent the "burden" on contracts from rising in FY 73 in spite of rising tuition and the possibility of higher indirect cost rates. This recommendation, if adopted, would encourage departments and project leaders to provide as much support as they can for graduate students.

(6) In an effort to make the best use of available resources, and to respond to student initiatives, we are also recommending that the Dean of the Graduate School study recent student suggestions to determine if an improved bus service can be provided within the dollar constraints already specified, and without adverse effects on other parts of the Graduate School program.

(7) Finally, we applaud the efforts of the Dean to work with his counterparts in other universities to devise student aid policies more attuned to considerations of equity all around. It seems to us that the closer we can come to a policy of granting assistance based in large part on need, the better off all of graduate education will be, especially in these troubled times.

The implications of this plan -- modest though it seems in comparison with the experience of the 1960's -- for the allocation of University funds are very substantial and have given us cause to consider them carefully. But we recommend that the commitment be made. We estimate that to sustain the levels of support shown in the table will take a 12% increase in the use of endowment and general funds for FY 73, a 22% increase for FY 74 (the year the Ford grant terminates), and a further increase of something over 7% in each of the following two years. (The percentage increases for fellowships alone are even greater, as Table 2 shows.) The magnitude of the commitment which this recommendation implies becomes even more distinct when the proportional increases are converted to actual dollar figures. Our proposal is to increase endowment and general funds contributions to graduate student support from under $3 million this year to more than $4.6 million annually by FY 76. We believe we have found a way to smooth the impact on the overall University deficit by "saving" some designated endowment income this year and next for subsequent use in the years following the end of the Ford grant, though this will not of course diminish the total impact in the slightest.

Our projections also assume, in keeping with last year's plan and the recommendations of the Dean of the Graduate School, that room and board charges at the Graduate College will be increased slightly less than 7% next year. The exact schedule of charges has not been determined and will be worked out by the Dean of the Graduate School in cooperation with the Department of Dormitory and Food Services, and in consultation with the Graduate College House Committee. It is important to emphasize that under present budgeting procedures every dollar by which housing and dining deficits can be reduced goes directly to additional fellowship help. (Married student housing is discussed below with faculty and staff housing, which is covered by Phase II of the administration's economic program.)

In summary, the Committee is hopeful that the plan described here will help assure the continued excellence of our Graduate School. Certainly it represents a major effort by the University to do just that. We intend to continue to pay close attention to developments at Princeton and elsewhere, and we expect the University to do all in its power to encourage renewed support from governmental and private sources for graduate education.

Nor should the substantial commitment proposed here for graduate student support be taken as an indication that we do not strongly support adequate student aid appropriations at the undergraduate level as well. As is indicated in a later section, a considerable increase in scholarship funds is also being recommended in this report, in order to continue on the course endorsed by the Committee a year ago.

2. Library. -- The Library is operating this year (FY 72) with an acquisition budget which contains the same dollar contribution from general funds as last year's budget (FY 71). In recommending support at this level last January, the Committee also projected an increase in expenditures for acquisitions of 3% annually for FY 73 and FY 74. These very restrictive recommendations were made (and approved) because we saw no alternative in the light of the University's overall financial situation.

This program of severe austerity has proved to be very hard on the Library because the acquisition of books and periodicals is peculiarly susceptible to escalation in costs. It is not just that the average price of a book is increasing -- though it is, and at a rate well in excess of the average annual rate of inflation and well ahead of what was forecast last year. It is also a result of the growth in the number of publications.

Thus, a constant dollar budget for FY 72, followed by 3% increments, certainly implies some curtailment in acquisitions. And Princeton's holdings have already slipped somewhat -- although not nearly as much as some crude published figures would suggest -- in comparison with other major research and teaching libraries.

In response to the austerity budget under which they have had to operate, the University Librarian and his staff responded with a number of constructive ideas intended to sustain the quality of both the collection itself and library services. Acquisition of duplicate copies of books and journals was curtailed. More stringent acquisition guidelines were issued. Standing orders with publishers were scrutinized more carefully. Greater efforts were made to enter into cooperative efforts with other institutions, especially Rutgers.

These actions are salutary, but there is only so much progress which can be made along these lines. Some peripheral problems have been solved; the central problem remains.

Our Committee now concludes that the provisional plan for the Library announced last year is simply too restrictive and should be amended. We have reached this conclusion because of the central importance of the Library to the quality of Princeton's programs of education and research, especially in view of the emphasis Princeton places on independent study. We now believe that to reduce the rate of increase in acquisitions over any length of time by the amounts implied in our earlier recommendations could cause the quality of the collections to deteriorate unacceptably.

Neither do we find it feasible, however, to recommend a return to the annual growth rate characteristic of the 1960's. There are simply too many valid competing claims on very scarce resources. Our sense of the right compromise in this area is a recommendation that the acquisitions budget be increased by 7 1/2% in each of the next two years (FY 73 and FY 74) and by slightly over 10% in each of the following two years. The obtaining of additional outside support would permit modifications of these estimates of the contribution to come from University funds, but these are the assumptions now included in our new provisional plan.

The Committee also wishes to make several recommendations regarding the Library's program which we feel will help assure that these proposed budget increases make the greatest possible contribution to the welfare of the entire University:

(1) We recommend that the Library use graduate and undergraduate student workers for most of the new non-professional positions requested, as well as for necessary replacements in the future to the extent feasible. Not only would this step save a modest amount in the Library's budget, but the provision of needed student employment would ease somewhat the strain on fellowship and scholarship funds. It should be noted that the Library is already one of the principal sources of student employment.

(2) We have stated before, and we reiterate, our belief that the Library must continue to build on areas of strength in its acquisition program, and not attempt to achieve the same level of acquisitions in all of the fields it covers. To assist in this effort, we recommend that the Dean of the Faculty and his associates participate more actively in the important decisions which allocate acquisition funds among fields.

(3) It also seems desirable that the Dean of the Faculty's office continue to give probable Library acquisition needs due consideration in decisions on new faculty appointments.

(4) The Committee also wishes to be recorded as strongly in favor of Princeton's participation in various library consortiums such as the Chicago clearing house for journals. Such joint efforts not only save money in the Library's budget, but may also help provide a needed check on the tendency for the number of journals to proliferate.

(5) Finally, the Committee again emphasizes that national solutions to the problems facing the major university libraries must be found. Greater coordination of policies, the search for new approaches, and the quest for additional outside support all deserve major efforts, and we hope that our Librarian can count on the help of faculty and staff associates as he represents Princeton in pursuing these objectives.

3. Theater Program, including McCarter Theatre. -- The McCarter Theatre is at a major turning point this year, and for this reason the Committee -- as well as a subcommittee of the full Committee -- has devoted considerable attention to its future course and to the more general question of the role of the performing arts at Princeton.

A decision was made more than a year ago to suspend the resident repertory program at McCarter for the current year so that studies could be conducted and thought given to its future. The Priorities Committee has now had the benefit of an excellent study prepared by the McCarter Theatre Committee, and members of our Committee have spoken at length with Professor Daniel Seltzer, chairman of that committee.

We reached two firm conclusions very early:

- The economics of the performing arts in general, and of McCarter in particular, made it abundantly clear that the Theatre could not be expected to operate on an unsubsidized basis.
- A multi-year commitment is essential if we are to try to attract a talented producer, director, and acting company.

Before making a specific recommendation, the Committee considered the full range of alternatives -- closing McCarter, continuing the Theatre on a booking basis only, and providing various levels of support for a resident company as well. From these deliberations emerged a strong consensus that McCarter should play an important and active role in the educational life of the University as well as in the general life of the community. There are several reasons for this:

First, the Theatre is important not only to the University but to the larger community and region because it is the only institution of its kind closer to us than New York and Philadelphia.

Second, as the Bressler Commission has also recognized, there is an important place for the performing arts in a university which stresses the liberal arts. And there are a number of possibilities for fruitful interaction between McCarter and the University's educational programs. For example, members of the resident company would teach theater workshops in the Program of Creative Writing and the Performing Arts.

Third, the marginal commitment of funds necessary to have an improved McCarter repertory program is really quite small when compared with the considerable costs to which we are committed in any case simply by dint of owning the building. And the timing, too, seems propitious; the University has in Professor Seltzer a person who is well qualified to see to it that the separation between the stage and the classroom is bridged effectively.

The Committee therefore recommends that as much as $90,000 in University funds be allocated to the McCarter Theatre in FY 73, and that commensurate amounts be provided in the following three years. (These sums would be in support of the direct operating deficit, and in addition to the funds devoted to operation and maintenance of the building and other indirect costs.)

This recommended maximum level of University support should be sufficient to permit us to see what is possible at McCarter within reasonable economic limits. It is about the same as the level of support provided in FY 71 after allowing for inflationary cost increases. At the same time, it is certainly a lower level of support than would have been desirable absent the other pressing demands upon University funds, and a lower level of support than originally proposed by the McCarter Committee.

In making this proposal, the Committee also urged that efforts be made to raise additional outside funds for support of the theater program at Princeton. Happily, these efforts -- which are continuing -- have already met with some success.

4. Undergraduate Dormitories and Food Services. -- The provisional plan approved last year assumed that a $100 combined increase in undergraduate room and board charges would be necessary in FY 73 to offset higher expenses of operating the dormitories and food services system and to reduce further the deficit on these activities. We are now glad to be able to report that through better control and management, the Department of Dormitory and Food Services has been able to curtail sharply the deficit on operations of the undergraduate dormitories and dining halls to the point where -- if we were to ignore completely any imputed return on the University's very substantial capital investment in

the system -- a small surplus seems in prospect.

Accordingly, the Committee now recommends that there be no increase in board charges for next year, and that the undergraduate room charge be increased by only $15.

A $15 increase in the room fee represents the approximate cost of implementing a recent proposal adopted unanimously by the Faculty-Student Committee on Undergraduate Life. That proposal -- which our Committee endorses -- is a controlled initial response to a desire expressed by various groups within the University that sophomores be released from the longstanding requirement that they hold a University meal contract. A detailed presentation and analysis of the Undergraduate Life Committee's recommendation is contained in Appendix C to this report. The broad outlines of the plan are as follows:

(1) About 150 members of the class of 1975 would be afforded the opportunity to be released from mandatory University meal contracts in order to join clubs or become "independents" next year. In the view of the Committee on Undergraduate Life, the uncertain social effects and likely costs -- and the attendant charges that would have to be levied on the student body -- seem too great to allow a blanket sophomore release from Commons in the absence of some actual experience with student preferences.

(2) If more than 150 persons expressed a desire for release, a lottery would be used. This system of sign-ups, with a lottery in case of over-subscription, is the one used for other options presently open to sophomores (Wilson College, Princeton Inn, and Madison Society).

(3) Sophomores remaining in the University dining system would become eligible to dine at Stevenson Hall, since that option can be allowed without affecting significantly the overall budget of dormitories and food services.

(4) The results of this program, which is frankly experimental, would be evaluated carefully a year hence to see what lessons

have been learned concerning both student preferences and actual costs.

The principal reasons why the Committee on Undergraduate Life proposed an evolutionary and experimental approach to the complex problems of sophomore release are two-fold. In the first place, blanket release would have been very expensive to the student body, requiring an increase in charges more than three times as great as that which we are proposing. In the second place, the uncertainties mentioned above deserve reemphasis. The impact of a "release" program on the University's finances would depend entirely on the dining decisions made by all the affected individuals, and given the substantial number of unknowns, it seems wiser to go forward with a limited plan that can function as a test of preferences. We would plan to look again at this problem next year in the light of experience. Needless to say, if larger numbers of sophomores were released in future years, rates would have to be raised more than otherwise would be the case.

It may also be well to explain that both the Committee on Undergraduate Life and our Committee recommend an increase in the room charge, rather than higher board fees, for the very important reasons described in more detail in the report of the Committee on Undergraduate Life. Briefly:

(1) The opportunity for sophomore release is viewed as a benefit to the whole dining and social system, and the only effective way to assure that the costs are shared widely and equitably is to increase the room charge (or, conceivably, the tuition fee). One ironic consequence of the principal alternative -- raising board charges rather than the room charge -- would be that the entire cost of allowing a partial release from the University system would be borne by those remaining within it, the very students who benefit the least!

(2) Furthermore, in comparison with many other universities, our room charges are relatively low in any case, and our board fees are relatively high. (This results in part from our treatment of

capital costs, discussed immediately below.)

Before leaving this subject, we would also like to record our views on one other aspect of dormitory and food services operations: the capital costs of the system.

In the past, capital charges have often been ignored when calculating the surplus or deficit on dormitory and food service operations. To some extent, this seems justified -- surely, no one would suggest that we ought to aim for full recovery of capital costs associated with all dormitories, some of which were built in the last century.

But there are also very real capital expenses which the University is incurring today -- both directly and indirectly. We are actually paying off a mortgage on the Princeton Inn, yet no charge for this real direct cost has been taken into account in the surplus and deficit computations referred to earlier. Furthermore, when the University builds a new dormitory with its own money -- as opposed to borrowing -- it forgoes the annual income which those same funds would have earned had they remained in our investment pool.

For these reasons, the Committee believes that our ultimate goal for the dormitories and food services system should envision at least a modest contribution to the very real -- and very substantial -- capital costs of that system.

5. Housing for Faculty, Staff, and Married Graduate Students. -- A policy of gradually reducing the deficit on faculty and staff housing and on married student housing antedates the establishment of the Priorities Committee. After consulting with members of the faculty and the administrative staff, and after meetings with graduate students, the President announced this policy three years ago. And in each of the last two years, this Committee has reaffirmed the policy, based as it is on considerations of equity and fairness.

The provisional plan adopted last year called for two specific actions regarding rents. First, we recommended 10% across-the-board rent increases in FY 72, FY 73, and FY 74. Second, we favored implementation of an "equalization" plan over the same period, which called for selective additional rent increases for those faculty and staff housing units found to be conspicuously underpriced in relation to comparable dwellings. Our Committee continues to believe that this policy is the right one, and that gradual reduction of housing subsidies should be our ultimate goal.

However, the restrictions on rent increases incorporated within Phase II of the federal government's new economic program may prevent Princeton from carrying out these plans to their full extent. The word "may" needs to be stressed because the initial guidelines issued by the Price Commission are not entirely clear, and were still being analyzed by our legal counsel as this report was being prepared.

In the meantime, and recognizing that these estimates are very much subject to change, we have amended the provisional plan -- solely in response to Phase II -- to include a more moderate rate of rent increases in the years after FY 72. (For the latter part of the current year, we have assumed that it will be possible to carry out the 10% increase announced last winter and then put in abeyance when Phase I took effect.) Tentative annual increments of the order of 5% are included in the plan through FY 76 -- a 2 1/2% basic increase plus an allowance for higher taxes. The provisional plan does assume, however, that the equalization of rentals will proceed on schedule.

The important point to note about this tentative modification to the plan is that it will not be possible, in all likelihood, to bring down the housing deficit significantly under this new set of assumptions. While some relief can be expected under Phase II on the expenditure side of the housing ledger -- the costs of actually operating the University's housing program -- it would be a mistake, we believe, to hope for a very substantial moderation of cost increases any time soon. For one thing, nearly one-half of all rental income is needed merely to cover taxes and debt service -- and neither of these expenses is affected by Phase II in any way. For another thing, we should expect that the portion of housing expense which represents the salaries of our own University employees will rise by slightly more than 5% each year -- and the provisional plan so provides. Thus, even after making allowance for the productivity gains which are flowing from management improvements being initiated by the real estate department, it may well prove impossible to make progress toward reducing housing deficits as long as the new rent rules under Phase II continue in their present form.

B. Major Provisional Plan Policies Reaffirmed

1. Tuition Policy. -- In last year's report, our Committee recommended that the University plan on an increase in tuition of $250 for 1972-73 -- to $3,050 for undergraduates and $3,150 for graduate students -- and that further annual increases of $200 to $250 be expected in subsequent years. These figures compare with an increase of $300 put into effect for the current year. As stated in last year's report, the basic reason for these increases is simply that they are required by the overall financial situation confronting the University. This continues to be the case, and our Committee is convinced that the income from these proposed increases will be essential over the next few years if the quality of Princeton's educational program is to be sustained. To illustrate the importance of this income, the additional funds produced by the tuition increases recommended here would be equivalent to only about three-fourths of the cost to general funds of the projected increases in salaries for faculty and staff which we believe to be critically important to the University. Of course, not all of the increase in tuition would be available for this purpose since provision also has to be made for increased student aid at both graduate and undergraduate levels (discussed below) as well as for all of the other costs of operating the University.

Increases in tuition are always cause for serious concern because of the problems they pose for students and their families, many of whom are already hard-pressed financially. In at least partial response to this problem, our Committee reemphasizes the high priority we attach to providing sufficient student aid -- in the forms of scholarships, loans, and employment opportunities -- to assure that no student currently enrolled will have to leave Princeton for financial reasons. This has been a central principle at this University for many years, and we reaffirm it.

In considering the level to which we propose that tuition be raised, two other perspectives are useful. First, tuition continues to cover only about half of the average cost of educating an undergraduate at Princeton (including student aid). Second, while relatively few firm decisions regarding tuition for FY 73 have been announced thus far by other colleges and universities, the information that is available suggests that our recommendation will not be out of line. Most private colleges and universities with which Princeton competes most directly for students will be charging roughly the same tuition.

Finally, the Committee wishes to note one technical change in tuition policy which we are recommending for next year in the hope that it will ease the burden on certain families to a modest extent -- namely, separate identification of the portion of tuition which represents the student-related costs of operating the University Health Services and the Counseling Center, as well as the Medical Benefits Plan. Showing this amount separately (it will probably work out to about $125) would be advantageous for many students and their parents since we believe they would be permitted to deduct it in calculating their income tax.

Looking to the future, we continue to be concerned about the possibility that Princeton might come to attract only the relatively rich and the relatively poor. So far, this kind of polarization does not seem to have occurred here, but the situation could change and the whole problem is under active study by Dr. Richard Spies. Of course, this is a national problem, by no means confined to Princeton, and national solutions will have to be found.

2. Faculty Manning. -- The provisional plan adopted last year called for no increase in the size of the faculty for FY 73, and the Committee's recommendation now for that year is, in fact, just about the same as our recommendation for FY 72 made a year ago. However, due to the existence of some vacancies among positions authorized for this year, the Committee's proposed manning level for next year actually represents about a 4% increase over the current size of the Faculty (the equivalent of about twenty-two full-time faculty members on the teaching budget). Whether this increase finally materializes in full will depend on our degree of success in filling all of the positions authorized.

Our Committee has not attempted to recommend staffing plans for particular departments. As in past years, we have relied on the Dean of the Faculty and other administrative officers to review the circumstances of each department in detail and then present an overall set of recommendations to us. This year the Dean of the Faculty, the Dean of the Graduate School, and the Dean of the College met with representatives of every department (usually the Chairman, the Director of Graduate Studies, and the Undergraduate Representative) to review the overall academic program of the department for the coming year and future years as well. On the basis of these very useful meetings and a review of trends in enrollment, prior commitments, and many other factors, the senior Deans reviewed department requests and prepared specific manning proposals which were then summarized for our Committee. We would emphasize that decisions regarding faculty staffing cannot be made and have not been made by applying any mechanical formulas. The primary motivation of the senior Deans in preparing their recommendations -- as well as the main concern of this Committee in its discussion of faculty staffing -- has been a determination to preserve, and enhance where possible, the quality and effective use of Princeton's faculty.

We recognize that undergraduate enrollment is still rising, and that our recommendations therefore imply a very slight increase in the student to faculty ratio which will have to be accommodated through a small increase in teaching assistant hours, continuing efforts to control the number of courses offered, and perhaps a slight increase in average class size. However, the magnitude of these adjustments should not be exaggerated. Princeton will continue to have closer faculty-student contacts (and higher teaching cost per student for our subject areas) than any other university except M. I. T. and Cal Tech.

Our projections for the future include the assumption that faculty size will increase slightly in FY 74 and FY 75 and level off in FY 76. Our ability to provide for additional increases will depend greatly on the success of efforts to find the necessary funds.

Our projections also imply a continuing policy of tight administration of leaves of absence for faculty under current policies. We believe that any further consideration of leave policy should await the final version of the Bressler report on the future of the College.

3. Undergraduate Student Aid. -- Continuation of the undergraduate student aid policies followed in recent years would require provision of about $250,000 from general funds in FY 73 beyond the amount provided in the current year. This augmented allocation is necessary to meet higher educational costs (principally tuition) and to adjust for the fact that we expect to have a slightly larger percentage of economically disadvantaged students, assuming that the percentage of such students in next fall's entering class will exceed the percentage in this year's graduating class.

The Committee recommends that these additional resources be provided, and that the rough proportions of students presently receiving aid in some form (scholarship, loan, or employment) be used as planning figures, namely 10% economically disadvantaged in the freshman class and 50% of all entering students. We also recommend -- again, to reaffirm last year's proposals -- an increase of $100 in the amount of self-help which is provided through the loan component of the student aid package. Finally, the Committee urges that maximum use continue to be made of students in University jobs. (As one example of the Committee's intent in this respect, see the earlier discussion of the Library.) These recommendations are consistent with the analysis and proposals submitted to us by the Faculty Committee on Undergraduate Admission and Financial Aid, meeting with the parallel student committee appointed by the Undergraduate Assembly.

In most recent years, it has not been possible to guarantee scholarship assistance to every admitted student with demonstrated need -- at Princeton or almost anywhere else. Last year, as it turned out, it was possible eventually to offer needed scholarships to all students who remained on the financial aid waiting list. But there is no way to predict the outcome in advance -- the result is so heavily influenced by the nature of the applicant pool, the yield on acceptances, and other factors.

Although it is impossible to tell now by how much -- if at all -- the scholarship funds recommended here will fall short of satisfying all demonstrated need in the Class of 1976, it is possible to be rather definite on one point. The high priority assigned to student aid at Princeton will be shown by the fact that Princeton will be doing more than most of our sister institutions in providing increased undergraduate scholarship assistance in FY 73 -- just as in FY 72. On the basis of the most recent information available, it appears that some other universities are unable to plan on any increase at all in their student aid budgets next year, even in the face of higher tuition and other fees.

4. Computer Center. -- The principal financial problem facing the Computer Center will occur not in FY 73, but in the immediately following years, when a major user of the 360/91 -- the U. S. government's Geophysical Fluid Dynamics Laboratory -- is planning to obtain its own equipment. The impact on University income of such a step would be considerable. Income from this source is estimated at about $700,000 in FY 73, but is expected to drop to about $200,000 the following year, and terminate entirely thereafter.

Although the time schedule for acquisition of the new equipment by GFDL is still somewhat uncertain, the basic problem remains, and the Committee has asked that studies of alternative responses to this situation be undertaken this year.

5. Athletics. -- All of the cutbacks in athletic expenditures recommended by the Committee a year ago were made by the department, including some additional reductions not included in the January report of the Committee. The FY 73 budget for the department recommended here departs from the provisional plan in one respect. We propose one addition to the staff (and associated operating expenses) to meet the strong interest in athletics by women students.

At the time this report is being written, the presidents of the Ivy Group universities are awaiting a report by Professor Gerald Brady of Columbia University on cooperative efforts that might be undertaken to maintain the quality and character of Ivy League athletics while reducing costs. We believe that the correct approach lies in such coordinated efforts.

6. Supporting Services. -- In general, we have tried wherever possible to hold to the provisional plan for supporting services, which called for no staff increases in any area, and for continuing staff reductions in the Department of Physical Plant. It has not been possible

to hold to this policy in every instance, but a real effort has been made to keep a very tight rein on these costs. A few comments, both general and specific, on this area -- which includes security; miscellaneous central university services; academic and general administration; and planning, plant, and properties -- are presented here to illustrate our approach.

The Committee's target of a year ago for reductions over three years in physical plant personnel has already been achieved for groundsmen through attrition, while the planned attrition of janitors is continuing even though reduced service has led to a number of complaints from some building occupants. The future of our plan for savings in this particular area is not clear at present -- there is some possibility that we may have cut back too far in provision of janitorial service. The General Manager and his staff are now studying this matter.

A program for reducing the heat in campus buildings during the winter has already been put into effect as recommended by the Committee.

Some modest increases in student services are recommended for the FY 73 budget. (These are included on the line for "academic administration" in the summary expenditure table.) For example, there is an overall increase of nearly $50,000 for the University Health Services, which is accounted for primarily by the higher student health insurance premiums necessary to secure more complete coverage of hospital and surgical expenses. Another proposed increase of nearly $25,000 would be used to augment the staff of the Counseling Service.

Increases in general administration expenses are partially attributable to new requirements imposed on the University from outside. For example, we shall need to spend nearly $30,000 more in FY 73 as a consequence of the new federal occupational health and safety law.

Other modest increases in administrative costs are forced by rising postal rates and other increases in prices. These same factors have also required slight increases in the operating budgets of some academic departments.

Finally, the Committee recognizes that the impending retirement of the Financial Vice President and Treasurer, together with the appointment of a new President and a new Provost, is certain to require some other administrative adjustments. It is not likely, however, that the net effect on the budget will be significant.

7. Salary Policy. -- Perhaps no single policy recommendation made by the Committee last year gave us so much concern as the proposal that there be a virtual "pay pause" for one year for some of our best and highest paid people. Plainly, an adequate salary policy is essential if Princeton is to attract and hold a top rank faculty and a capable supporting staff.

Our report a year ago recognized this concern explicitly in the declaration that such an austere salary policy ought not to be followed for more than one year. We now propose that Princeton move ahead by establishing an overall salary increase pool of 5 1/2% for FY 73, consistent with the federal government's Phase II guidelines. We also wish to make clear our strong advocacy of the merit principle in apportioning these salary increases among groups and individuals, especially at the higher ranks of the faculty and staff where last year's pay pause was felt most severely. Finally, the Committee endorses the efforts already under way to assure that there is complete equity between men and women in the application of salary policies.

APPENDIX TABLE A-1

PRINCETON UNIVERSITY

Operating Budget: Income
(in thousands of dollars)

	1971-72 Budget (1)	1972-73 Projection (2)	Difference (2)-(1) (3)
1. Endowment[1]	14,464	14,704	+240
2. Student Fees:			
a. Undergraduate Tuition	10,898	12,490	+1,592
b. Graduate Tuition	3,828	4,007	+179
c. Other[2]	251	280	+29
Subtotal	14,977	16,777	+1,800
3. Gifts & Grants (non-gov't):[3]			
a. Sponsored Projects	1,629	1,581	-48
b. Annual Giving	3,300	3,500	+200
c. Other	3,912	3,762	-150
Subtotal	8,841	8,843	+2
4. U.S. Government Agencies:[4]			
a. Sponsored Projects	21,313	22,237	+924
b. Other	1,761	1,337	-424
Subtotal	23,074	23,574	+500
5. Auxiliary Activities:			
a. Athletics[5]	626	588	-38
b. Dorm. & Food Services	6,044	6,264	+220
c. Faculty & Staff Housing	1,365	1,558	+193
d. Married Student Housing	433	480	+47
e. Commercial Properties[6]	785	802	+17
Subtotal	9,253	9,692	+439
6. Service Departments[7]	3,269	3,494	+225
7. Other[8]	2,476	2,500	+24
GRAND TOTAL	76,354	79,584	+3,230
Memorandum: Summary of Sponsored Projects			
a. Direct Costs	17,215	18,063	+848
b. Indirect Cost Reimbursements	5,727	5,755	+28
Total[*]	22,942	23,818	+876

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[*] Sum of lines 3a and 4a.

APPENDIX TABLE A-2

PRINCETON UNIVERSITY

Operating Budget: Expenditures
(in thousands of dollars)

	1971-72 Budget (1)	1972-73 Recommendations (2)	Difference (2)-(1) (3)
1. Academic Departments:			
a. Instructional Salaries			
1. Faculty, acad. year	9,339	9,564	+225
2. Teaching ast. stipends	622	642	+20
3. Teaching ast. tuitions	495	578	+83
b. Other salaries, expenses and benefits[9]	15,134	15,861	+727
c. Graduate Fellowships			
1. University Fellowships[*]	1,344	1,585	+241
2. Other Fellowships	2,557	2,147	-410
Subtotal	29,491	30,377	+886
2. Special Academic Programs[10]	9,879	10,264	+385
3. Undergraduate Scholarships	3,350	3,592	+242
4. Other Student Aid and Miscellaneous Fellowships[11]	546	546	---
5. Central University Services:			
a. Library[12]	3,833	3,928	+95
b. Computer Center	2,360	2,391	+31
c. Security	805	818	+13
d. Other	529	541	+12
Subtotal	7,527	7,678	+151
6. Administration:[13]			
a. Acad. Administration	3,161	3,285	+124
b. General Administration	5,211	5,348	+137
Subtotal	8,372	8,633	+261
7. Planning, Plant & Properties	8,784	8,808	+24
8. Athletics	1,242	1,248	+6
9. Dormitories & Food Services	3,709	3,813	+104
10. Transfers to Reserves[14]	3,672	3,370	-302
11. Salary increases (including benefits)	---	1,750	+1,750
12. Savings from unfilled positions and unspent operating budgets[15]	-100	-250	-150
13. Allowance for Contingencies[16]	424	250	-174
GRAND TOTAL	76,896	80,079	+3,183
14. Estimated Income	76,354	79,584	
15. Surplus or (deficit)	(542)	(495)	

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[*] Endowment and General Funds.

Notes to Summary Tables

GENERAL NOTE: Some of the lines of these summary tables have been discussed in detail in the report proper, and no attempt will be made here to summarize information which appears elsewhere.

1. Endowment income increases in FY73 even though the investment income per unit remains the same, because some units have been added (particularly for student aid) and some departments are planning to use more available income next year than they are currently using. (Endowment income does not show up in the operating budget at all unless it is actually spent.)

2. Other student fees increase because the Graduate School application fee is being raised from $15 to $20.

3. Gifts and Grants. We are estimating an increase of $200 thousand in Annual Giving, which will offset a slight drop in sponsored projects and a more marked reduction in other gifts, mainly for academic departments and programs. The important point, however, is that annual giving serves to reduce the deficit dollar for dollar, while many of the "other" gifts and the portion of sponsored project funds devoted directly to the cost of the projects, are included on both the income and expenditure sides of the budget, with no net impact on the deficit.

4. U.S. Government. The entire drop in other government income is attributable to reduced support for graduate students.

5. Athletics. Reduction is more than accounted for by a lower estimate of football gate receipts. (This is a normal every-other-year occurrence, due to the schedule of particular home and away games.)

6. Commercial Properties. Assumes an 8% increase on expiring leases (on average). Not all leases expire each year, however.

7. Service Departments. Increase is mainly attributable to the Computer Center and the central machine shop.

8. Other income. This line consists mainly of income from the investment of current funds. The increase is entirely accounted for by accounting adjustments.

9. Other salaries, etc. Nearly all of the increase is in direct charges to sponsored projects.

10. Special Academic Programs. Increase is nearly all accounted for by McCarter Theatre and sponsored research, especially at the Plasma Physics Laboratory.

11. Other student aid, etc. This line was not included as a separate entry in last year's report. It consists of miscellaneous items (prizes, post-doctoral fellowships and the like) formerly included on the lines for graduate fellowships and undergraduate scholarships. None of these items involve general funds.

12. Library. The increase of 7 1/2% in FY73 for acquisition of books and periodicals (discussed in the text) is included here. Overall increment (+95) shown on this line is much less than this percentage because no increases are included here for the salaries of Library personnel. These increases are included below on line 11.

13. Administration. Had it not been for the increased student services and new statutory requirements discussed in the text -- and a projected increment for the University Magazine which does not require any general funds -- the increase in this area for FY73 would have been slightly over 1%.

14. Transfers to reserves. This is a "formula" calculation based on a moving average of expenditures from these funds in prior years. The reduction is primarily due to a one-time charge in FY72 occasioned by an increase in the deductible on our fire insurance.

15. Savings from unfilled positions, etc. This is a customary allowance for the fact that not all budgeted positions are filled throughout the year. The allowance is larger for FY73 because a somewhat larger number of vacancies are included in the budget for that year, especially on line 1 a. 1 (faculty - academic year).

16. Allowance for contingencies. The allowance is larger for FY72 due to inclusion of an estimate of the cost of an extra pay day for secretaries which happens to fall in that year because of the vagaries of the calendar.

APPENDIX B

Princeton University: DEPARTMENT -- Office of the Provost

INTER-OFFICE CORRESPONDENCE

TO Department Chairmen
Heads of Offices
Directors of Programs

FROM William G. Bowen

DATE September 21, 1971

SUBJECT Review of the University's Current Financial Situation and Guidelines for 1972-73 Budget Requests

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The forms for the 1972-73 (FY 73) operating budget will be distributed shortly by Mr. Carl Schafer, Director of the Budget. They are nearly identical to last year's forms, and they will be accompanied by a set of detailed instructions, including a time schedule.

The purposes of this memorandum are to review the most recent financial results for the University, to set forth some general considerations that all of us must bear in mind in working on the budget for 1972-73, and to provide some specific guidance applicable to all academic and non-academic departments.

In seeking to describe the present financial circumstances of the University it is difficult to find just the right tone. On the one hand, as the President announced at yesterday's Faculty meeting, the operating deficit for the year just ended was the largest in the University's history -- about $1.5 million; on the other hand, this deficit, large as it was, was about $1 million less than the forecast last January.

This result represents real progress in coping with our financial problems. It cannot be attributed to forecasting methods or accounting practices which always lead to a more favorable year-end result than was forecast. Indeed, in 1969-70, as you will recall, the final result was a deficit about $700,000 higher than that year's mid-year forecast. Nor is the improvement in this case the result of uncontrollable or chance fluctuations, which one should always expect in a budget of nearly $80 million (where a net swing of one percentage point on either the income or expense side will change the deficit by $800,000). We believe the improvement between the forecast and the final result represents real progress because of the specific factors which, on balance, produced the favorable swing.

A detailed examination of the financial results for FY 71 shows that the swing of $1 million was attributable primarily to: (1) the upsurge in Annual Giving; and (2) the early attainment of some of the savings which had been projected for 1971-72 and beyond. The following table lists, in somewhat more detail, the principal changes which produced the improved result:

Factors Altering the Deficit Projected in January 1971 for the Fiscal Year 1970-71

(In thousands of dollars)

Deficit Projected in January	2,556
Factors Increasing the Deficit:	
Attrition among undergraduates was greater than expected; tuition loss exceeded scholarship program savings	174
Costs of employee benefit programs proved higher than estimated	239
Athletics income fell short of expectations, due mainly to lower football gate receipts	55
Subtotal, factors increasing the deficit	468
Factors Reducing the Deficit:	
Annual Giving up	269
Higher indirect cost reimbursements on Government sponsored research projects more than offset a shortfall on non-government projects. (This occurred even in the face of overall reductions in administrative costs largely because the total direct costs of sponsored research -- to which indirect cost reimbursements are related -- rose by more than $1 million during the latter half of the year. Furthermore, the estimate contained in the Priorities Committee report is seen in retrospect to have been too low even for the overall level of sponsored research envisioned at that time.)	274
Savings achieved in administrative departments (especially Planning, Plant, and Properties); in academic departments and programs; in the Library, Computer Center, and other central services; and in Athletics more than surpassed the allowance for such savings forecast earlier	607
Dormitories and Food Services sustained a lower deficit than forecast earlier	115
All other changes	250
Subtotal, factors reducing the deficit	1,515
Net Change in Deficit	1,047
Actual Deficit Incurred	1,509

The strong showing of Annual Giving was especially encouraging because it came in the midst of uncertain economic conditions and at a time when many people were expressing doubts concerning the future of voluntary support from alumni, parents, and friends. Moreover, the near-record result for Annual Giving was accompanied by considerable success during 1970-71 in attracting new endowment and other capital gifts.

The early attainment of economies in the operating budgets of academic departments and programs, and especially in administrative and central services, amounted to $607,000 more than the allowance for such savings which had been figured into the budget. These savings, achieved ahead of schedule, reflect the cooperation of faculty and staff in meeting the fiscal problems of the University.

These reasons for being encouraged by the results for 1970-71 do not, of course, alter the fact that the final deficit of $1.5 million was still very large in and of itself and, indeed, half a million dollars higher than the final deficit for the previous year. Thus, the real test of our success in reversing the trend toward rising deficits is still ahead of us.

For the current year, we now believe that we will end up with a deficit of somewhat less than $1 million, rather than the $1.2 million forecast last January. Taking account of certain factors that reduced the FY 71 deficit has led to a revised forecast for FY 72 of a deficit of $900,000. This too must be regarded as a highly provisional estimate, and a further reassessment of prospects is now in progress in the light of last year's experience, current economic conditions, and the likely effects of President Nixon's stabilization policies.

The implications of these recent results and revised projections for the development of the 1972-73 budget have now been considered by President Goheen, Mr. Mestres, and the members of the Priorities Committee, as well as by the Director of the Budget and the Executive Director of Administrative and Personnel Services. We have concluded that the following general considerations should bear on budget-making for 1972-73:

> First, that our primary financial objective must continue to be the achievement of an approximately balanced budget by 1973-74. This is the target set last year, and we see no reason for modifying it.
>
> Second, that in seeking to achieve an approximately balanced budget by FY 73-74, we should continue to follow the general outlines of the so-called "provisional plan," described in last January's Report of the Priorities Committee. The provisional plan adopted

last year called for continuing actions to increase income and for the continuation of strict controls on new positions and on expenditures (see the specific budget guidelines listed below). The plan also envisioned, however, somewhat larger salary pools than were possible last year, and we are determined to do all we can to bring this about, given both financial constraints and whatever national policies on wages and prices follow the current freeze.

Third, that to make it possible to move ahead with the salary policy which was assumed in the provisional plan, while staying within overall budget constraints, we must continue to make selective reductions in the budget base of the University. We do not expect, however, that these reductions will be as substantial in overall magnitude as the reductions of last year, when it was necessary to eliminate some 100 positions charged to general funds.

These general considerations have been translated into specific guidelines for submitting budget requests which are quite similar to those used last year. We continue to believe that the interests of both those responsible for submitting budget requests and those responsible for reviewing them will be served by the issuance of such guidelines. It would be in the interest of no one to have departments submit proposals which we all knew in advance could not be funded.

Accordingly, for those activities for which specific multi-year plans were approved in the budget process last year, the FY 73 requests should be consistent with the policies underlying those plans. This does not mean that the specific dollar figures will necessarily be the same as those contained in the provisional plan. Subsequent experience, and particularly the actual FY 71 results, may require revisions in the projections if the original intent of the planning decisions is to be preserved.

For those activities for which multi-year plans have not yet been developed and approved -- and for the others as well to the extent that the approved plans leave some options open -- we ask:

--1. That you propose no net increase in academic or other staff. (In particular, please do not request replacement of the positions eliminated from the budget last year unless there is an extraordinarily compelling case for doing so which was not present last year.)

--2. That you reexamine all present vacancies, and all vacancies known to be forthcoming due to resignations and retirements, to determine whether they can remain unfilled without jeopardizing essential functions.

--3. That you propose operating expense budgets no larger than those approved for the current year (1971-72), except that increases up to a maximum of 3 percent may be requested if rising costs seem to require such action. We recognize that this may still mean "absorbing" some inflationary cost increases through more efficient or reduced operations.

--4. That you not plan to shift charges now paid from sponsored research and restricted departmental funds to the general funds budget without proposing offsetting economies.

--5. That you try, wherever feasible, to make fuller use of restricted funds so that general funds can be conserved for those activities which cannot be supported in any other way.

There is one important exception to the coverage of the first four of the above guidelines. They are not meant to apply to proposals which are to be financed from sponsored research grants or restricted funds on a continuing basis. Neither are they intended to constrain activities which can be fully funded from new "outside" sources.

We also recognize that there may be some exceptional circumstances in which the complete application of the first four guidelines would be severely damaging. In such cases, please include in the memorandum accompanying your budget materials a detailed explanation of the nature of these circumstances, as well as a specific indication of how they have been reflected on your budget forms.

It is plain from these guidelines that the progress made to date, while encouraging, does not permit anything like a return to former modes of operation. Princeton, like virtually every other college and university, continues to face financial problems more serious than those encountered at any time since the 1930's. The President, the Trustees, the staff of the Development Office, the Annual Giving volunteers, and many others are working hard to increase support from both private and governmental sources; and, as has been noted, with some positive results. Simultaneously, we must continue to ask for the active cooperation of all members of the University community in holding down expenditures. By continuing to seek additional income while also attempting to operate economically, we believe it will be possible to maintain and, indeed, improve the strength of this University, as all of higher education moves through a very difficult period.

W.G.B.

William G. Bowen

APPENDIX C

SOPHOMORE MEAL CONTRACTS:

Report of the Faculty and Student Committees on Undergraduate Life

January 21, 1972

SOPHOMORE MEAL CONTRACTS

1. Introduction

During the course of the past few years, the question whether sophomores ought to continue to be required to purchase mandatory University meal contracts has several times been raised and discussed. From many points of view, it has seemed desirable in principle to release sophomores from the mandatory meal requirement and permit them to enjoy the same range of dining and social alternatives presently available to juniors and seniors. During the past two years, in particular, the feasibility -- as well as the desirability -- of initiating a change of this kind has been under sustained and intensive study by the Provost's Office, the Office of the Dean of Students, and the Department of Dormitory and Food Services. This paper summarizes some of the major benefits and costs involved in releasing sophomores from mandatory meal contracts, and recommends a plan that would enable the release of approximately 150 sophomores from Commons contracts to be achieved relatively smoothly and at a level of expenditure that appears to be sustainable.

2. Mandatory sophomore meal contracts: discussion.

Sophomores as well as freshmen have been traditionally required purchase University meal contracts, and the present dining arrangements at Commons were planned with ample space to accommodate the sophomore as well as the freshman class (although the combined size of these classes has increased threefold -- from 725 to 2, 200 -- since the facility was constructed). These arrangements have served the University well for a long period of time, and from a number of points of view, they could be continued for some period into the future on a satisfactory basis. Certainly many persons have felt over the years that maintaining Commons as a central dining facility for all sophomores as well as freshmen has given the members of those classes an opportunity to meet and come to know one another in an informal, social context. During junior and senior years, students go their separate ways with respect to dining and social arrangements. By the time this occurs, however, they have been able, partly through the medium of Commons, to establish friendships with classmates from various parts of the campus, and these relationships are apt to be sustained afterwards, when different individuals have joined quite different kinds of social and dining groups. Commons, therefore, has been seen to play a valuable socializing and even stabilizing role with respect to certain aspects of undergraduate life; and the fact that sophomores as well as freshmen have been required to eat in Commons has allowed these students an opportunity to orient themselves fully to the University campus as a whole before asking them to make choices -- sometimes difficult and disconcerting choices -- concerning the social and dining side of their lives.

While there is essential agreement that for just these reasons Commons ought to continue to serve Princeton freshmen as it has done in the past, many persons have felt for some time that the argument for requiring sophomores to eat in Commons is not so compelling. This view is based primarily upon a perception of changing social patterns among students, as well as upon an analysis of related financial and institutional considerations. For example:

a. The increased diversity of the undergraduate student body, and the emergence of a greater range of student life-styles during the past five or six years, has brought a concomitant desire among undergraduates for flexibility in dining arrangements. In general, individuals would like as much as possible to vary the size, cost, taste, location, and scheduling of their meals to suit themselves. At the very least, they would like to be able to choose between relatively structured or unstructured dining situations.

b. Not only is there presently a greater range of student life-styles and dietary habits than existed ten or fifteen years ago on most university campuses, there are also greater economic differences among students than previously existed. A significant number of juniors and seniors (approximately 150 per class) currently choose not to affiliate themselves with any of the structured dining and social alternatives on campus, and one common motive, though not the only one, for "independence" is financial. Independent students calculate that they can save between $100 and $150 a year in food bills. While the Commons contract remains moderately priced, it too has risen significantly in the past three years (from $690 to $800 per contract), and a good number of sophomores feel that they can eat adequately for less money. At a time when students are being asked to finance a greater portion of their own education than before -- through loans and jobs -- it does seem important to try to give them increased opportunities for making reasonable economies whenever possible, and the economy of "independence" would be available to sophomores if they were no longer obliged to purchase University meal contracts.

c. Just as increased diversity in the student body is reflected in a new variety of dietary and dining preferences, so too does it find expression in a desire for different kinds of social settings and situations. A good number of students choose to become "independent," for example, quite irrespective of economic considerations, simply because of the particular kind of social flexibility and freedom which independency allows. Some students prefer to live off campus in apartments, still others prefer the social milieu of Prospect Street eating clubs, and a large number join one of the various University-sponsored facilities, either residential or non-residential. Moreover, an increasing number of individuals choose to experiment by trying something different each year: it is not unusual to find students moving from membership in a College, to membership in a club, to spending senior year as an "independent."

Sophomores clearly would like to have the opportunity to choose social settings that suit their individual dispositions, even as juniors and seniors now do. Whatever the virtues of Commons, it is clear that the facility offers very little except dining space: there are no lounges of any significance, no informal socializing areas, no study rooms, and the design of Commons as a whole is not conducive to the use of the facility as a general activity or social center. Consequently, sophomores are really inhibited from relating to or participating in a whole range of social and other activities open to juniors and seniors, and it seems clear that the non-academic experience of at least a great many sophomores would unquestionably be more satisfying if they had the possibility of joining social and dining facilities that offered a greater variety of activities and pursuits than Commons can do.

d. Because the size of the entering freshman classes has been increasing steadily in recent years, Commons has become more crowded. Some of the crowding has been relieved this year because of changes in the academic schedule, but the combined freshman and sophomore classes now constitute virtually 2,200 students, as opposed to only 1,600 students three years ago. Moreover, if the University is to continue its effort to admit more qualified undergraduate women, it seems likely that the size of entering classes will grow at least somewhat greater in the future. In short, while releasing sophomores from their Commons contracts leaves the facility with somewhat fewer students than it can comfortably feed, the effort to accommodate both the newly enlarged freshman and sophomore classes in Commons has already imposed some strain on the facility, and will lead to further crowding if the size of entering classes continues to expand. If sophomores were released from Commons, on the other hand, this would have a beneficial effect on the atmosphere of the Commons environment, and would allow meals to be taken at a more relaxed pace under less constricted circumstances.

e. In addition to arguments that can be made from the point of view of the sophomores themselves, it is clear that releasing sophomores from Commons contracts could also benefit other groups within the University community. Stevenson Hall, for example, would like to be able to admit sophomores as regular members, and the Hall made an application to this effect in 1970-71. A number of the Prospect Street eating clubs have similarly requested, over the course of a number of years, permission to take sophomore members.

In conclusion, a number of factors argue for release of sophomores from their mandatory contracts. A desire to extend to as many underclassmen as possible the kinds of social and dining opportunities presently available to juniors and seniors, a desire to be responsive to more diverse student social and dining styles as well as to increased financial pressures upon students, and a desire to assist both Stevenson Hall and a number of the Prospect Street clubs, all make the case for releasing sophomores from University contracts a strong and appealing one. Moreover, the issue is not a new one: the Dean of Students Office has felt for at least three years that it would in principle be desirable to discontinue mandatory contracts for sophomores, and requests for such action from both the sophomores themselves and other parts of the University (Stevenson and the clubs) have been a recurring phenomenon. The problem has been given a considerable amount of sustained thought and study over a considerable period of time by several administrative offices in the University, and the general consensus is that the problems deriving from mandatory sophomore contracts are real, and that they are apt to persist. Hence, while the situation is certainly not acute or critical, neither is it entirely satisfactory; the time seems ripe for a change, if a change is feasible.

3. Discontinuing sophomore meal contracts: logistical and financial problems.

Discontinuing mandatory meal contracts for sophomores necessitates answering two important questions satisfactorily: first, are there a sufficient number of places open for sophomores in existing dining and social facilities outside of Commons? Second, what would be the economic implications of sophomore release, and how would any resulting deficits be made up? Both of these questions are discussed in this section of the present report.

After careful study and debate, the Dean of Students Office and the Faculty Committee on Undergraduate Life have concluded that the financial costs and the logistical complexities and uncertainties of releasing all sophomores from mandatory meal contracts are simply too formidable to be borne at the present time. In order to fund a full-release program, the room rent for every undergraduate would have to be increased by $50, and even then, the program would have a $70,000 adverse effect on the student aid budget (resulting from lost jobs in Commons, as well as other factors). Moreover, a full-release program would clearly have a substantial and in many respects unpredictable impact on all existing dining facilities and arrangements, particularly upon the Student Center, a facility that is already crowded and that could scarcely bear the influx of a few hundred more persons at lunch-time. In short, while it seems highly desirable to make some significant change in the present sophomore meal contract situation, a total transformation of the present situaion is judged to be simply too expensive and too unpredictable from a logistical point of view.

Although a full-release program is unfeasible at the present time, the Dean of Students Office and the Undergraduate Life Committee have designed a more modest plan that will allow approximately 150 sophomores to be free from University board contracts and other 40-60 to be offered membership in Stevenson Hall, assuming there are places open in the Hall. In other words, approximately 200 of the 600 sophomores presently in Commons would be afforded dining and social options not presently open to them (sophomores have for some time been able to join Madison Society, Wilson College, and the Princeton Inn College). A program of this kind is substantial enough to make a real difference to a great many sophomores, as well as to Stevenson Hall and the clubs; at the same time, it is limited enough to reduce significantly both the financial and logistical difficulties intrinsic in a full-release program -- indeed, the dimensions of the present proposal are such as to make the project an excellent "pilot" program from which much can be learned. Student room rates would have to be raised by only $15 (as opposed to $50) in order to fund the limited-release plan.

Several different methods of paying for a sophomore release proposal have been considered in the studies undertaken during the past two years. There are some inequities (as well as some inefficiencies) inherent in virtually any pricing proposal, but the present scheme of raising room rents by $15 minimizes such incongruities. One might argue, of course, that one should raise the price of the Commons contract, since the loss of revenues resulting from sophomore release occurs at Commons and it can be argued that those students who eat in a given facility should carry the costs associated with the operation of that facility. If this line of reasoning were accepted, then the Commons board contract would have to be raised $40-$50 in order to maintain Commons on a break-even basis.

Several reasons argue against financing sophomore release in this way. Primarily, while it can be stated that those students who are members of a facility ought to bear the costs associated with that facility, it is also the case that, in this instance at least, the students who remain in Commons are precisely those who do not benefit from the "release" proposal. Releasing sophomores from Commons will create the new deficit, and it is precisely the "released" sophomores themselves who will enjoy the advantages of the new dispensation. Under these circumstances, it seems paradoxical to present the freshmen and other students who remain in Commons with the bill for sophomore release.

A different approach -- recommended in this report -- to the financing of the Commons deficit is distinctly more equitable. Since virtually every student on campus is a sophomore at some point in his career, every future student has the opportunity to benefit from a plan that increases sophomore options by curtailing mandatory meal contracts. As a consequence, it seems fair to finance the Commons deficit by charging every undergraduate in the University some portion of that deficit, since all have the possibility to share in the benefits. If the anticipated deficit were spread amongst the slightly more than 4,000 undergraduates, a $15 rise in charges would make up the difference. It is suggested that this rise be added to the room rent of undergraduates, if the plan were to be accepted, essentially because virtually all undergraduates have room contracts with the University, whereas a great number do not have board contracts. In summary, if sophomores are to be released from mandatory meal contracts, it seems advisable to spread the costs of this plan amongst all undergraduates, and to achieve this end by raising room rents modestly, rather than to adopt the other alternative of escalating the price of a Commons board contract.

IV. PROGRAM BUDGETING

A. Introduction

The past fifteen years have seen the emergence and application to the non-profit sector of the so-called "modern management techniques" of Planning, Programming, and Budgeting (PPB). Much of the early work concerned questions of national defense, but the general techniques were subsequently applied to other governmental programs of all kinds, including the full range of activities under the purview of the Department of Health, Education, and Welfare.[1]

It would be disturbing, indeed, if colleges and universities too were not interested in taking full advantage of any new techniques which offered the hope of improved performance, especially when the whole of higher education faces growing financial problems of a seriousness unprecedented since the depression of the 1930's. It is obvious that now, as never before, every effort must be made to make effective use of available resources -- both to protect educational objectives threatened by insufficient funds and to persuade possible sources of additional funds, private and public, that new monies would be used wisely.

In the hope of making some contribution to the general understanding of what does and what does not make sense in a university environment, as well as in the hope of improving our own situation, we have

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[1] An excellent history of the development of PPB within the Federal Government is provided by the three short books based on the H. Rowan Gaither lectures at the University of California, Berkeley. See Charles J. Hitch, Decision-Making for Defense, University of California Press, 1965; Charles L. Schultze, The Politics and Economics of Public Spending, Brookings Institution, 1968; and Alice M. Rivlin, Systematic Thinking for Social Action, Brookings Institution, 1971. Each of these books is instructive in its own right and, read sequentially, they depict the evolution of PPB quite well.

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been investigating the applicability of PPB techniques as one part of our larger study of resource allocation in universities. As explained at the beginning of this report, ours has been a "demonstration project" from the outset, intended to produce results for a particular institution, and, as such, may complement some of the more general work done by others.[1]

Over the years, a wide variety of things have come to be associated with PPB. It is not our aim here to try to sort out which "really belong" and which do not. Instead, we will use the concept rather loosely to cover a diversity of forms of economic analysis, management techniques, and so on, which have in common a family resemblance deriving from the way they relate to the parent -- a full-scale Planning, Programming, and Budgeting System.

In this report we will first describe the general approach represented by a fully developed Planning, Programming, Budgeting System, the rationale behind it, the steps needed to institute it, and some of the particular problems posed for PPB in a college or university setting. We will follow this rather general discussion with a description of some of the applications we have tried to make thus far at Princeton. Finally, we conclude with an appraisal of the strengths and limitations of PPB as a tool for decision-making in educational institutions.

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[1] For a relatively early discussion of the general application of PPB to universities, see Harry William, Planning for Effective Resource Allocation in Universities, American Council on Education, 1966. More recently, considerable work on this general subject has been done at the University of California (see George Weathersby, "The Development and Applications of a University Cost Simulation Model," Office of Analytical Studies, University of California, June 1967, as well as subsequent research memoranda), at the University of Toronto, and at a number of other universities as well. The Management Information Systems Office of the National Center for Higher Education Management Systems (NCHEMS) at the Western Interstate Commission for Higher Education (WICHE) is at work on a large scale effort to develop management information systems and PPB systems for universities (see James Farmer, "Why Planning, Programming, Budgeting Systems for Higher Education?" WICHE, February 1970).

It is worth saying here that from the outset of our interest in this subject -- when we first discussed our objectives with representatives of the Ford Foundation -- we have stressed our intention of trying to determine to what extent the techniques of PPB are and are not applicable to a university such as Princeton. Thus, we have hoped to protect against the danger that PPB would be oversold, no less than the danger that its advantages would fail to be recognized.

B. Program Budgeting as a General Approach

Principal Characteristics of PPB

The main features of a Planning, Programming, Budgeting System can be summarized simply. Indeed, the complex terminology and the early mystique sometimes associated with it notwithstanding, PPB is really nothing more than the orderly application of common sense to the process of allocating limited resources among competing ends. As Alice Rivlin has put it:

> Anyone faced with the problem of running a government program, or, indeed, any large organization, would want to take these steps to assure a good job: (1) Define the objectives of the organization as clearly as possible; (2) find out what the money was being spent for and what was being accomplished; (3) define alternative policies for the future and collect as much information as possible about what each would cost and what it would do; (4) set up a systematic procedure for bringing the relevant information together at the time the decisions were to be made. PPBS was simply an attempt to institutionalize this common sense approach in the government budgeting process.[1]

The theoretical basis of PPB has been described at length elsewhere,[2] and while there are important problems of concept that remain either unclear or controversial, this is not the place to enter into a technical and abstract discussion of such matters. We shall, however, return to four basic conceptual issues affecting almost all attempts at program budgeting when we consider applications to higher education: (1) the specification of objectives, "outputs," or "final products;" (2) attaching values to various kinds of outputs; (3) the allocation of joint costs among program categories; and (4) the distinction between incremental and average costs.

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[1] See her Systematic Thinking for Social Action, p. 3.

[2] The original sources usually cited are the Rand Corporation's papers of the late 1950's on defense management. See Charles J. Hitch and Roland N. McKean, The Economics of Defense in the Nuclear Age (Harvard, 1960), and E.S. Quade and W.I. Boucher, Systems Analysis and Policy Planning: Applications in Defense (New York: American Elsevier Pub. Co., 1968). Other references, in addition to those cited in earlier footnotes, include: David Novick, ed., Program Budgeting (Washington, GPO, 1965); U.S. Congress, Joint Economic Committee, The Analysis and Evaluation of Public Expenditures: The PPB System, 91st Cong., 1st session, 1969, 3 volumes; Melvin R. Levin and Alan Shank, eds., Educational Investment in an Urban Society, Part IV "PPBS" (New York: Teachers College Press, 1970); Alain E. Enthoven and K. Wayne Smith, How Much is Enough? (New York: Harper & Row, 1971).

Basic Definitions. -- Before proceeding further it may be helpful to offer some working definitions of the components of a PPB system.

--"Planning" is the analysis, the discussion, and the making of decisions on resource allocation issues which have implications for several years in the future. "Cost-effectiveness" and "cost-benefit" analyses often provide useful background information for planning decisions.[1] They are parts of the planning process.

--"Programming" is the recording of planning decisions in a long-range planning document (the "long-range plan"). This document is organized by "program" or output-related categories and shows the resource costs involved in carrying out the planning decisions. The resources needed are described in terms of personnel, plant and equipment, and annual outlays of dollars. The document is a record of decisions made to date and represents the approved plan.

--"Budgeting" is, of course, a traditional function. Within a PPB system, however, "budgeting" has certain specific connotations. It implies performing the traditional budgeting functions with reference to a long-range plan and it entails: (1) the generation of detailed requests for the resources to carry out the near year of the long-range plan; (2) the review of these requests to see if they are consistent with the long-range plan; (3) budget decisions; and (4) monitoring of budgets throughout the year.

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[1] For definitions and discussions of these concepts, see Hitch and McKean, op. cit., as well as the great volume of literature on these techniques which has appeared subsequently.

Establishment of "Program" Categories and the Measurement of Output. -- If we compare PPB with most earlier budgeting systems, one of the principal differences is the format used to summarize financial and other data. A large part of the impetus behind the development of PPB was the recognition that traditional budget categories did not permit decision-makers to see the full dollar costs, including the costs of supporting services, associated with a particular program. Nor did traditional budget categories encourage the coordination of financial data with other data which described programs under consideration and gave some indication of their "output."

In an effort to correct these deficiencies, program budgeting puts considerable emphasis on establishing categories defined in terms of the objectives of the organization and what are considered to be its final products. Thus, any fully developed PPB system will have at least one set of mutually exclusive program categories. Our initial efforts to devise categories for Princeton, and to allocate costs among them, are described below, and there is no need to anticipate that discussion here.

Several general characteristics of the process of establishing and using program categories do deserve mention at this point, however. First, most organizations will want to have several levels of program categories. In a university, for example, graduate education may be regarded as one large category for some purposes; but it may in turn be broken down into a category consisting of all Ph. D. programs in the arts and sciences, another "second-level" category for professional graduate training in business, and so on. Then, within the "second-level" category consisting of all Ph. D. programs in the arts and sciences, it will be important for some purposes to work with "third-level" categories consisting of Ph. D. programs in particular disciplines. One use to which a departmental breakdown of Ph. D. programs was put at Princeton has already been shown by our discussion of the suspension of the graduate program in Slavic Languages and Literatures (see pp. 109-119). Of course, even finer breakdowns may be required for still other purposes, especially in the case of departments which have fairly well-defined "sections" -- e.g., Romance Languages contains French and Spanish sections -- and a careful analysis of the activities of this department's graduate program requires that these separate sub-programs be distinguishable.

There is also a further point to be made concerning program categories which may have more applicability to universities than to most other organizations. Many occasions may arise in which it will be necessary to work with program categories which overlap or cut across one another. To illustrate, Princeton has had a particular interest in international and regional studies for some years, and it is important to be able to consider together all activities falling within this grouping for purposes of budgeting, fund-raising, and coordination in the development and carrying out of teaching and research activities. Thus, for some purposes, international and regional studies can be said to constitute a program element. Yet, the resources that go into this program -- faculty time, library materials, space, and so on -- also cut across, and contribute directly to, a variety of other programs -- e.g., graduate work in political science. Many other examples can be given of overlapping program elements, some of which will be discussed below when we consider specific applications (for example, the introduction of coeducation). The general point is that any PPB system needs to be sufficiently flexible to accommodate both various levels of programs and the need to work with overlapping program elements.

Our last general comment concerning program categories *per se* is a negative one: the establishment of program categories in no way replaces the need for budget categories of the traditional kind, with entries corresponding to the location of operating responsibilities and the nature of the accounting system. At Princeton, we have continued to summarize our own financial conclusions in the traditional way, as explained above (see pp. 36-43 and especially Tables 1 and 2), and we have done so not just because of the necessity of working within an established accounting system. The more basic arguments for the traditional format are: (1) that it is useful in projecting certain sources of income (e. g., endowment, gifts and grants, and student fees), whatever activities or programs they finance; and (2) that it is indispensable for controlling and monitoring the supporting services provided by a host of departments such as Purchasing, which has an identity of its own under the traditional format but not under a program budgeting format. Given the need for both formats, it is essential that methods be developed, appropriate to the accounting system of each organization, which will permit the ready translation of data from a program budget format to a traditional budget format and vice versa.

Lest anyone think that the establishment of suitable sets of program categories will lead directly to strong conclusions concerning difficult questions of resource allocation, it should be emphasized that any such sweeping result is precluded by the enormous difficulties of measuring and comparing the "outputs" of separate program categories. How is one to measure, in any quantitative way, the output of research done by a Classics Department and then to express the result in a form commensurate with the value attached to the research done by the Physics Department or to the education offered by either department at graduate and undergraduate levels? The outputs of universities are basically people and knowledge, the qualitative dimension of each is extremely important, and no very satisfactory measures of performance exist.

Of course, these problems of finding quantitative measures of output are not unique to educational institutions. As Alice Rivlin has noted,[1/] the measurement of the benefits of many "people" programs is

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[1/] Systematic Thinking for Social Action, especially pp. 51-60 and pp. 5, 7.

still in its rudimentary stage, and there is no assurance that convincing solutions will ever be obtained. Thus, she concludes that it is not possible to say whether it would do society more good to cure cancer than to teach poor children to read better; nor does she believe that this is a temporary situation.

The basic reason for our difficulty here is that education, like many other public activities (including, it should be noted, the activities of the Department of Defense where much of the early work on PPB was done), produces outputs which are not sold in competitive markets. As a result, the usual yardstick of the economist in measuring the value of, say, a ton of steel or a television set -- market price -- is inapplicable. Most research is not "sold" at all, at least through any market mechanism, and tuition can hardly be regarded as the "market price" of education at either undergraduate or graduate levels.

Our inability to express varying outputs in commensurate units (dollars or something else) generally makes it impossible to reach obvious and noncontroversial decisions when comparing programs with very different outputs. To refer to Alice Rivlin's general discussion of the same kinds of problems once more, she has noted: "If any analyst thought it was going to be easy to make social action programs work better or to make more rational choices among programs, he is by now a sadder and wiser man. The choices are genuinely hard and the problems extraordinarily complex and difficult."[1] Similar observations have been made by people with experience in other areas.

None of this is to say that analysis based on program categories is not useful. On the contrary, we believe that knowing the full resource costs of different programs can be extremely valuable, even when one is still forced to rely on judgments concerning the value of this or that program that are either largely intuitive or based on some consensus of professional opinion. (See, for example, our earlier discussion of Slavic Languages and Literatures.) Moreover, there are instances when what we need to compare is not two different outputs, but two (or more) ways of performing essentially the same function, and in such cases it is comparisons of resource costs that matter most. In short, our purpose in stressing the problems of valuing outputs is not to scare people away from PPB as it may be applied to educational institutions, but to recognize one reason why such applications constitute an art form, not an exact science, and a difficult one at that.

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[1] Systematic Thinking for Social Action, p. 5.

Developing and Using a Long-Range Plan. -- Another important difference of a generic sort between a program budgeting system and most traditional budgeting systems is that the former puts more emphasis on multi-year planning and decision-making. The long-range plan is the key document in any fully developed PPB system.

All organizations with multi-year commitments and resource constraints need some degree of long-range planning. In colleges and universities, the presence of tenure commitments, heavy investments in fixed plant, commitments to students entering degree programs extending over a number of years, and, in many cases, heavy reliance on "permanent" sources of income such as earnings from endowment imply the need for serious attention to forward planning.

The long-range planning process in any organization involves considering together the resources likely to be available at various points in time and the demands of competing programs as they may be expected to change over time. Looking at resource allocation decisions with some time perspective is particularly useful when there is a need to compare programs that have high initial costs but low operating costs with other programs that have low initial costs but high operating costs.

Another, perhaps even more important, benefit of long-range planning is that through it we can attempt to match the total projected costs of all programs with the resources likely to be available. Planning in this way can help to avoid inefficient stopping and starting of programs. In addition, with long-range planning we are able to develop some sense of the need for additional resources in the future. Projections of future needs can in turn aid fund-raising as well as encourage those responsible for immediate decisions regarding programs to strike a reasonable balance between cutting programs to match resources and attempting to find more resources to support present or proposed programs.

Finally, even a rudimentary long-range plan, of the sort represented by the provisional plans included as parts of the two reports of the Priorities Committee reproduced above, serves the important purpose of conveying openly and explicitly the assumptions and tentative decisions in force at the present time. This provides a single point of reference; thus, discussions of changes and additions to the plan can all start from a common base.

It is hard to generalize concerning the span of years that should be covered by a long-range plan. No doubt the right number of years will vary from organization to organization and within organizations from time to time, depending on the speed of change, the experience to date with long-range planning, its time horizon, and so on. The period should be long enough to show the implications of major commitments but not so long that uncertainty makes the estimates at the outer end useless. Many organizations seem to have concluded that five years is about right. Our first attempt at any comprehensive plan (the provisional plan in the 1971-72 Report) reached three years into the future. As will be explained below, we now think that four years is perhaps the best norm for most colleges and universities, and in the 1972-73 Report we extended our provisional plan to four years. Of course, whatever the period covered by a plan, it will have to be updated and revised each year.

In any fully developed PPB system, the long-range plan will be organized along programmatic lines. Thus, such plans normally do not have traditional budget departments as units. In particular, indirect service activities such as purchasing and operation and maintenance of buildings are usually distributed among the "output" activities which they support. However, the degree to which indirect activities should be distributed obviously depends on the organization. And, to repeat a point made above, it is essential that the information represented in programmatic form be readily translatable into the more traditional budget format. Indeed, if our experience is any guide, organizations just starting to plan systematically will probably find it advantageous to project expenditures and income in terms of the traditional categories as a first step. At any rate, this is what we did in developing our provisional plan, and, as we will indicate in the appraisal of program budgeting which concludes this report, we do not believe that full implementation of the program budgeting format will prove worthwhile for many colleges and universities of modest size.

Whatever the form in which the plan is expressed, we are firmly convinced that it should record explicitly the implications for the next several years of decisions taken to date. We are also convinced that it should be a formal document and not bits and pieces of information in the files (or minds) of various individuals. If an organization tries to be more casual than this, it runs the risk of losing the very considerable advantages of the formalized process of long-range planning listed earlier.

Alternative Long-Range Plans and Simulations. -- Another general characteristic of PPB systems is the encouragement they provide to consideration of alternative courses of action, defined broadly, and to the use of simulation techniques for this purpose. If an institution is operating within the context of a plan of the sort alluded to above, it is possible to represent alternative courses of action, however much or little they may differ from one another, as alternative total plans. The importance of representing contemplated policies as total alternative plans is that this procedure forces consideration of the likely effects of a major change in policy (e.g., expanding or contracting the size of the Graduate School) on all aspects of the life of the institution (the undergraduate program, the balance of the institution by discipline, the rank structure of the faculty, the nature of library collections, and so on). Of course, it is possible to consider each of these dimensions of a proposed policy in the absence of a general plan and of a PPB system, but since all of these aspects of a university have interlocking effects on one another, it is hard to do effectively without a regularized way of taking account of the interactions.

By focusing attention on the various programmatic objectives of the institution, on the resource costs of each, and on projections for the future, a PPB system reduces the likelihood that major decisions will be taken without proper consideration of all the educational and financial implications. A fully developed PPB system, with a strong data base, also increases the possibility of exploring the implications of alternative courses of action by means of simulations: calculating the impact on the total operations of the university of each of the alternatives under consideration given various assumptions about uncontrollable parameters. In fact, our first attempt to apply some of the basic concepts noted here involved a simulation of the effects on Princeton of adding 1,000 women undergraduates. While far from a complete application of the general approach being described (we did not consider as many other alternatives as would have been desirable), this study proved useful to us, and its conclusions have stood up well. We are now involved in a more comprehensive set of simulations having to do with alternative futures for the undergraduate college.

The Role of Judgment. -- It should be clear, especially from the above discussion of the problems of measuring educational "outputs," that PPB and the associated techniques of analysis do not replace judgment in decision-making. This point has been made over and over again in the literature on PPB, but it is worth repeating here since there still seems to be some misunderstanding. PPB does not provide a way of making decisions "automatically," and we know of no one who has ever worked with PPB who claims that it does. PPB and its supporting analysis are simply aids to judgment. They provide useful background information and handle many details in a systematic way -- thus allowing judgment to focus on the general and central issues. Formal modes of analysis, no matter how sophisticated, can never replace judgment in (1) the basic choice of objectives, (2) the relating of the quantitative measures used in the analysis to these objectives, (3) the weighing of important non-quantifiable factors involved in decisions, and (4) the actual making of decisions concerning particular courses of action to be followed.

Steps Toward a PPB System

Most of the main steps that need to be taken by an organization wishing to implement a fully developed PPB system follow directly, in a self-evident way, from the general characteristics of PPB just described. Nevertheless, it may be useful to summarize these steps, in outline form:

1. Prepare a description of the purposes, goals, and objectives of the institution.

2. Establish one or more sets of categories (programs) serving these purposes.

3. Assemble and organize the data, financial and other, needed to construct a multi-year plan.

4. Construct a multi-year plan for the institution indicating the main program elements and showing for each program:

    a. The resources to be devoted to it and how they are to be expended (personnel, space, etc.).

    b. The goals to be achieved by the application of these resources.

5. Establish an annual planning cycle for review of the multi-year plan, its extension for another year, and discussion of major modifications to it.

6. See that the annual budgeting cycle relates to the planning cycle and to the multi-year plan itself, with the budgeting process serving to make detailed adjustments for the budget year, to specify the budget in line-item detail, and to monitor expenditures and income flows.

We have nothing by way of general comments to add to what we have already said concerning steps 2, 4, 5, and 6. Steps 1 and 3, however, require a few words of comment.

Describing the Purpose of the Institution. -- To many people with a pragmatic bent, efforts to describe purposes often seem hollow and pointless -- and, indeed, they can be both, especially if carried to foolish lengths. It is also true, however, that being forced to make a few statements concerning purposes can provide a useful discipline as well as a starting point for more detailed analysis.

The analysis of the purposes of a university is a complex matter. As will be seen below, we have analyzed the Princeton University budget in terms of the portions serving: (1) graduate education; (2) undergraduate education; and (3) research and the preservation of knowledge. These are extremely broad purposes, however, and two institutions which shared these objectives might still differ significantly in terms of more precise goals. For example, graduate education can concentrate on Ph. D. programs, on professional programs in fields such as medicine or business, or on M. A. programs in fields such as education and social work. Moreover, there are important choices to be made concerning the number of fields to be covered, the degree to which the institution should emphasize numbers of students taught, the emphasis to be given to quality, and so on. Even within a seemingly circumscribed field such as international affairs, one institution may choose to emphasize training for the foreign service while another may emphasize economic development. At the undergraduate level there are a host of similar questions including size and diversity of the student body, commitment to the economically disadvantaged, and so on. So, too, must choices be made with regard to the purposes of organized research: the emphasis to be given to basic versus applied work, the particular areas (e. g., population research) in which the institution chooses to specialize, and so on.

For many institutions -- and this has been our own experience thus far -- it may be difficult to give precise answers to many important questions of purpose, especially where it is the degree of emphasis that needs to be specified. Also, considerations of morale and of sensitivity to the feelings of individuals concerned may argue against being as explicit as one could be, in any public document, concerning the future of a particular academic specialty or department. For all of these reasons, a statement of purposes may have to be fairly vague; still, even general statements can give a direction to the organization of program categories and can stimulate questions to be considered quietly if not incorporated in official pronouncements.

Assembling and Organizing Data. -- The bookkeeping, information, and general operating systems of most institutions -- or at least most colleges and universities -- are not immediately and without some trauma adaptable to the needs of a fully developed PPB system. Any organization considering the adoption of this general approach must be prepared to invest a considerable amount of energy and resources in the conceptual, clerical, and data processing work necessary to provide a basic set of data including both financial and non-financial information.

The CAFSIS system, described in Appendix C to this report, illustrates one way of collecting and assembling information relating to courses, enrollments, faculty time, and space utilization. The correlation of this information with other data, including budget results and projections, constitutes an initial effort on our part to develop some basis for evaluating the resource costs of various academic programs. The construction of the whole set of forms related to faculty manning represents a related effort to systematize that aspect of university planning. More generally, the changes we have made in the nature and timing of the budget cycle, and the procedures followed by the Priorities Committee, have served, at least to some extent, to integrate the analysis of all sorts of data with the process of defining goals and creating a provisional plan. Finally, the development of the program budget, presented in various versions below, shows one way in which information about capital costs, space, and other direct and indirect costs can be grouped by program headings.

We mention these various specific steps not to list achievements, but to give some idea of what is involved in creating the data base necessary for almost any work along the lines of program budgeting.

Organization and Staffing.-- Although it is not listed in the above outline as a distinct "step" in the establishment of a PPB system, it is obvious that certain organizational decisions and appointments of key people are prerequisite to all else. There are so many differences among institutions as to basic organizational structure that it would be difficult if not impossible to specify any single way in which the process of program budgeting should be built into an organization. So much depends on both the existing organization and the talents of individuals occupying various positions.

Three generalizations, however, do seem to us to be warranted. First, if an attempt is to be made to develop some kind of PPB system, there must be a clear commitment by the president and other chief financial and academic officers to the effort, and this commitment must be communicated to all offices whose support and assistance will be required. Almost all of the work to be done will depend on the cooperation and goodwill of people in virtually every office in the institution, some of whom are sure to look askance at new procedures. Whatever can be done to enlist support, and to avoid unnecessary concern, will be very important to the success of the effort.

A second, related, point is that a large influx of new people is not necessary to establish a PPB system in most organizations, provided that existing personnel can be counted on for active assistance. A reasonably small group -- one or two professionals plus a programmer and some clerical assistance -- can accomplish a surprising amount in the right setting. Indeed, our experience leads us to believe that starting out with modest additions to staff is likely to work better than trying to establish, at the outset, a large new office, even if the latter approach were financially feasible. Keeping the central staff quite small has the important virtue of forcing the kind of close cooperation with other offices in the institution which is essential in any case.

Our third generalization concerns the relation between staff work and policy decisions. The functions of analysis and of decision-making are, and should be, separable. We are convinced, however, that they must be very closely related if frustration and irritations are to be avoided. The persons responsible for making recommendations concerning policy to the president (or other operating officers) must be interested enough in analysis to communicate effectively with the staff charged with doing calculations, drawing up preliminary plans, and so on. The analysts, on the other hand, must be capable not only of doing good work, but also must have a strong intuitive sense of the nature of the institution and of the people that comprise it. Some tension between analysts and department heads in inescapable -- indeed, if it does not exist, hard questions must not have been asked. But this tension is much more likely to be constructive if the analysts share the same general commitments to the institution as the department heads, and if the analysts show that they too understand the many peculiarities of the academic culture.

C. Applications at Princeton

In attempting to apply the general concepts of a PPB system to the particular needs of our own university, we have taken a number of different tacks more or less simultaneously.

First, as already explained at length in Section I of this report, we have redesigned the University's budgeting system so as to facilitate consideration of all competing claims on resources at one point in time and in light of our best estimates of the total resources available.

Second, we have expanded the time horizon of budget decisions by attempting to develop a multi-year plan for the University. Our initial work extending through FY 74 is described in the 1971-72 Report of the Priorities Committee and alluded to at various places in Section I of this report. The extension of this work through FY 76 is described in the 1972-73 Report of the Priorities Committee. A brief discussion of our tentative notions regarding the further development of multi-year planning is presented immediately below.

Third, we have carried out a number of "partial analyses" of particular activities or programs "in the spirit of PPB." Under this heading belong studies of: (1) the desirability and feasibility of coeducation in the undergraduate college; (2) the costs associated with all of the University's activities in international and regional studies; (3) the overall costs involved in supporting graduate students in all fields; and (4) the future of graduate work in Slavic Languages and Literatures. Each of these studies, as well as some others not described here, represents an effort to think in programmatic terms, but they were not conducted in the context of a fully developed PPB system for the University as a whole, since no such system existed at the time they were carried out. It is for this reason that we refer to them as "partial analyses in the spirit of PPB." A brief discussion of these special studies follows the presentation of our further thoughts on multi-year planning.

Fourth, we have made a considerable effort to develop an overall program budget for the University as a whole for a single year. This work, which took the better part of two years, is now largely complete, and it is described in some detail after the discussion of the special studies.

Further Development of Multi-Year Planning

As discussed earlier, detailed multi-year plans already exist for many major University programs: graduate student support; undergraduate student aid; and Planning, Plant, and Properties, for example. In other areas, broad assumptions have been made about salary increases, size of staff, rates of inflation, and the like. However, a logical extension of work done thus far -- namely, the development of a more definite multi-year plan for each department of the University -- remains before us.

One hypothetical format which might be employed for this purpose is illustrated in Table 1. This table represents but one example of a single page format for displaying the sorts of information which would be most useful in the decision-making process. All of the information shown comes from one or another of the more detailed budgeting/planning formats described elsewhere in this report. Four features of this one sample format deserve brief mention.

1. The planning period is four years, the length of time spent at Princeton by the typical student
2. Salary figures are shown separately from other types of expense so that different assumptions may be employed about rates of change for each.
3. Income, as well as expense, is shown.
4. Course enrollments, students supervised, and other "outputs" are shown as well as financial inputs (faculty salaries, assistants in research, etc.).

Table 1

Five Year Plan

	Base Year FY 70	Past Year FY 71	Current Year FY 72	FY 73	FY 74	FY 75	FY 76
PHILOSOPHY DEPARTMENT							
Personnel							
Faculty							
Tenured							
Non-Tenured							
Total Faculty							
Effective Teaching Staff (FTE's)							
Faculty							
Tenured							
Non-Tenured							
Assistants in Instruction							
Total Effective Teaching Staff							
Research							
Prof. Research Staff (Univ. Funds)							
Prof. Technical Staff (Univ. Funds)							
Assistants in Research							
Student							
Undergraduate							
Course Enrollments							
Majors							
Students Supervised							
Graduate							
Course Enrollments							
Students Supervised							
Financial Resources							
Operating							
Direct							
Expenses							
Faculty Salaries and Benefits							
Other Salaries and Benefits							
Other Expenses							
Total Expenses							
Income							
Endowment							
Gifts and Grants							
Tuitions							
Total Income							
Net Direct							
Support of Graduate Students							
Expenses							
Income							
Net Support of Graduate Students							
O & M							
Major Maintenance							
Equipment Acquisition							
Net Operating							
New Construction							

Partial Analyses In the Spirit of PPB

1. Coeducation. -- Our first special study dealt with the educational and financial implications of a major programmatic change then being considered by the President and the Trustees -- namely, the addition of women to the undergraduate student body. While the decision to begin our substantive work with a study of coeducation was dictated by the need for a particular policy decision, not by any a priori judgment regarding the suitability of the subject for the techniques we were interested in trying out, it would have been difficult to find a more interesting first case.

In September 1967, President Goheen appointed a committee under the chairmanship of Professor of Economics Gardner Patterson to examine "the desirability and feasibility" of adding women undergraduates to the student body. Since the final report of the Committee (the Patterson Report) is available, having been published as a special issue of the Princeton Alumni Weekly in the fall of 1969, there is no need to repeat its conclusions here.

From the standpoint of resource allocation, the most important feature of this study was its exceedingly detailed analysis of the incremental costs and income which were expected as a consequence of the admission of 1,000 women undergraduates, the number of men undergraduates remaining constant.

We studied operating costs by focusing first on the most important of these for a university: faculty salaries. Since we wanted our study to have the maximum possible future use, we tried to construct a model for calculating incremental operating costs that was flexible enough so that it might be used to answer questions concerning other possible changes in the size of the student body at Princeton and perhaps also at other colleges and universities. The model is basically very simple. It took as raw data (a) the (then) current distribution of students at Princeton by department both with respect to course enrollment and with respect to major field of concentration; (b) information concerning teaching methods (how large courses are broken down into smaller sections); (c) factors describing anticipated differences between the behavior of the subject population (in this case women) and the present population of students with respect to academic interests, as manifested in their selection of courses and departments of concentration; (d) staffing policies indicating how the University expected to respond to staffing pressures exerted by increased enrollments; and finally, (e) salary scales for the different ranks of faculty. On the basis of these raw data, the model led to the calculation of an expected additional number of faculty by academic department and, within each department, by rank. Incremental faculty salaries associated with the expected expansion were then computed, with a breakdown by department and rank.

Knowing the number of new faculty that we anticipated would be added to each department, we could then estimate the additional costs which the University would incur for departmental administration and non-personnel operating expenses. These estimates were made department by department on the basis of judgments by department chairmen and examinations of existing costs.

The costs for academic administration were estimated by looking at the existing operating expenses of the various offices covered under the broad rubric of academic administration and by asking the administrative department heads directly for their estimates of increased workloads and costs. Cost estimates were also made for the Library, which would have to order additional duplicate copies of frequently used books as well as hire additional personnel to accommodate the increase in undergraduates. Separate estimates were made for the additional costs of the Computer Center and the Department of Athletics. Estimates were made of the likely operating deficit for the dormitories and dining halls which would have to be constructed to house and feed the 1,000 additional students. Finally, estimates were made for the scholarships which would have to be provided to the women under the assumption that they would receive, on average, the same scholarship offers as the men.

Capital costs were also projected. As in the case of operating expenses, an attempt was made to determine, department by department, where new space would have to be made available and new equipment purchased. A program was designed to schedule the additional classes in existing space wherever possible, on the assumption that departments would continue to have their classes in the same general areas on campus. A space allocation plan was worked out which assigned the new faculty and administrative staff members to office space. Finally, estimates were made of miscellaneous expenditures for better campus lighting, parking space, and security.

On the income side of the ledger, estimates were made of the income from tuition, fees, Annual Giving, and gifts and grants, which would accrue as a result of coeducation. Totaling up the income and subtracting the operating expenses led to the conclusion that coeducation, defined in these terms, would have a negligible net effect on the operating budget. Estimates of incremental income and incremental expenses turned out to be approximately offsetting.

Bland as it may sound, this conclusion was of decisive importance. The assumption of many people had been that coeducation would be impossible from the standpoint of operating costs alone, never mind capital outlays. This assumption had been based on a simple equating of average and marginal costs, and one of the principal lessons to be learned from this analysis was that incremental costs may well be far less than average costs, depending on the scale already achieved. Evidence based on subsequent experience has shown that we consistently overestimated the incremental costs -- and thus underestimated the economies of scale associated with this increase in enrollment. Capital costs also turned out to be far less than originally expected.

In terms of techniques of analysis, this early experience with one kind of "program budget," expressed in terms of 1,000 women students, taught us the values of detailed simulations (actually assigning the 1,000 hypothetical women students to sections of particular courses) and demonstrated the advantages of precise analysis as compared with rough estimates based on extrapolations of average costs. At the same time, the hand-tailored nature of these estimates meant that they could not serve as the basis for the more elaborate sorts of calculations now being made in conjunction with our current study of the future size and composition of the college. More general models of teaching costs have had to be developed, and the initial study of coeducation was no more than a first step in this direction.

2. International and Regional Studies. -- The nature of our second special study was also dictated largely by a pressing need of the moment, in this case the need to describe to foundations and other potential donors the range of the University's work in international and regional studies and the reliance being placed on various sources of finance.

By its very nature, "international and regional studies" is a far more diffuse undertaking than, say, mathematics. Faculty members working in the broad area of international and regional studies are based in many different departments: Political Science, History, Economics, East Asian Studies, Near Eastern Studies, Slavic Languages and Literatures, and so on. Moreover, expenditures for fellowships and major supporting services such as library purchases have traditionally been included within the budgets of the Graduate School and the Library. As a consequence, we had no real sense of the overall cost of our work in international and regional studies, thought of on a programmatic basis, or of the associated income. This made it difficult both to plan intelligently and to solicit financial support.

In an effort to meet this problem we collected the relevant data and summarized it using the format shown on Table 2.

The collection of the relevant data on expenditures for instruction was particularly difficult because at the time we carried out this exercise we did not have the faculty manning forms showing the field of specialization of each faculty member (Forms 1, 2, 3A). Consequently, a great deal of consultation and discussion with department chairmen was necessary. Similar problems arose in conjunction with efforts to separate library and student aid expenditures identified with international and regional studies.

Table 2

		1967-68 (in thousands of dollars)
A.	**EXPENDITURES**	
1.0	Instruction*	$1,774
2.0	Student Aid	
2.1	Graduate	$ 794
2.2	Undergraduate	223
2.3	Total	$1,017
3.0	Research*	$1,591
4.0	Library	$ 906
5.0	TOTAL EXPENDITURES	$5,288
B.	**INCOME**	
6.0	Endowment	
6.1	Instruction and Research	$1,350
6.2	Student Aid	
6.21	Graduate	$ 257
6.22	Undergraduate	135
6.3	Total	$1,742
7.0	Term Grants	
7.1	Instruction and Research	$1,058
7.2	Student Aid	
7.21	Graduate	
7.211	Ford 7-yr Grant	$ 32
7.212	Other	487
7.22	Undergraduate	80
7.3	Total	$1,657
8.0	Tuition	
8.1	Graduate	$ 410
8.2	Undergraduate	624
8.3	Total	$1,034
9.0	TOTAL INCOME	$4,433
C.	NET DEFICIT	$ 855

* Including direct and indirect costs.

One of the important benefits of the more general work on program budgeting done subsequently (and described below) is that it will make it far easier in the future to estimate the total expenditures of "program slices" such as this one.

The only other point to make about this study concerns the concept of a "net deficit" shown as the last line on the format. We arrived at net deficit figures by crediting all income attributable to international and regional studies -- including earmarked endowment, term grants, and credits for tuition payments (prorated, in the case of undergraduates, on the basis of course elections). As can be seen from the table, the result for 1967-68 was a net deficit of $855,000 on an expenditure base of just over $5,000,000. Noteworthy also is the extremely modest contribution of tuition income to total income, even before account is taken of expenditures for student aid.

The data for 1967-68, chosen as the base year, were instructive in and of themselves. More importantly, however, they served as the benchmark for a series of projections which in turn were used for planning and decision-making as well as for fund-raising.

3. Graduate Student Support. -- The ability of the Dean of the Graduate School and others to evaluate the resource costs of graduate student support and to consider alternative modes of support had long suffered from the fragmented and decentralized nature of the entire process of providing funds to students. Some fellowships were awarded at the departmental level from restricted accounts, others were obtained by individual students on the basis of national competitions, and still others were awarded by the Dean of the Graduate School himself from endowed accounts and from some appropriations of general funds. In addition, significant numbers of graduate students received aid in the form of Assistantships in Research and in Instruction, with the former determined largely by the leaders of sponsored research projects and the latter determined by department chairmen in consultation with the Dean of the Faculty. Finally, many graduate students were receiving support in the form of housing and dining subsidies,

with the amounts here determined by the Real Estate Department and the Department of Dormitory and Food Services.

So long as funds for graduate student support were relatively plentiful, this variegated structure, with budget entries related to graduate student support appearing under many headings, may not have caused severe problems. However, financial stringency required a more comprehensive and coordinated set of data organized on a programmatic basis.

The method of summarizing graduate student support included on Form 10 has already been described above. In addition, the Dean of the Graduate School, working with the Associate Provost for Resource Planning, prepared summary tables for the Priorities Committee showing all sources of graduate student support and spelling out the implications of alternative budget decisions (e.g., no increase in general funds, a 10% increase in general funds, a 20% increase, and so on). These tables included projections concerning outside sources of support and ended with estimates of the numbers of entering students who would have to be self-supporting to varying degrees under each alternative. Separate calculations were also made for departments in different divisions of the University to show the differential effects by discipline. The use to which analysis of this kind has been put by the Priorities Committee, and the conclusions reached concerning means tests, the use of loans, and fellowship levels are described in the Committee's reports for 1971-72 and 1972-73.

The only feature of this analysis that merits further comment is the treatment of housing. For many years Princeton has provided housing for many -- but by no means all -- married graduate students as well as single students. And, while this housing has carried rents well below market levels, there has often been controversy over proposed increases in rents. Needless to say, no one likes to see his or her rent increased, especially when the family is already hard pressed financially, as is the case for many graduate student couples. Under these circumstances, it was exceedingly difficult to have a reasoned discussion of rental policies and of attendant effects on equity among graduate students in and out of University housing, so long as consideration of rents was separated from consideration of other forms of graduate student support. As a result, there had been a steady increase for some time in the subsidies going to those graduate students fortunate enough to live in University housing.

With the advent of a budget for graduate student support constructed along more programmatic lines, however, it was possible to change the framework within which rental policies were set. We made it clear that subsidies on graduate student housing were viewed as a form of support just like fellowships, that there would have to be a set amount of funds available for graduate student support in all forms, and that therefore every additional dollar of subsidy for housing would mean one less dollar of fellowship money available. Once the situation was defined in these terms, it became easier to consider subsidies to graduate student housing on their merits and to discuss the advantages and disadvantages of alternative modes of support. Housing subsidies came to be seen not as an end of policy, but as one among several methods of achieving an objective: namely, to use the limited funds available as effectively and as fairly as possible for the support of all graduate students.

4. Slavic Languages and Literatures. -- The application of program budgeting ideas to the discussion of the future of Slavic Languages and Literatures is listed here to illustrate one other way in which reorganization of data can aid in decision-making. Since the work done in evaluating the graduate program in Slavic Languages and Literatures, and the final decision to suspend the graduate program, has already been described in detail (see Section I, pp. 109-119, where we discuss reductions in the budget base of the University), there is no need for substantive comment here. We note only that this was the most recent of the four "partial analyses" described and that it differs from the others in that it benefited directly from the more comprehensive work on program budgeting for the University as a whole which is presented immediately below. The data on library costs of graduate

work in Slavic Languages and Literatures, for example, were taken directly from the worksheets for the Library developed as part of the larger program budgeting effort.

Development of a Unified Program Budget

Whereas the special studies or partial analyses described above were motivated in every case by a particular and pressing need, the development of a unified program budget was stimulated by a more general desire to see what the entire operation of the University would look like when expressed on a programmatic basis and to see what longer-term benefits might be realized by using various program budget formats. Also, we wanted to see how difficult and how costly it would be to construct one or more versions of a program budget.

Relating Income to Expenses. -- A unified program budget must, of course, treat income as well as expense, and we started our developmental work with the strong conviction that income items should be placed directly under the expense activities to which they are related, either by their restrictions (e. g. , endowed book funds), or by their source (as for athletics). Thus, tuitions should be distributed on the basis of enrollment and related to departmental instructional costs. In all cases, the net of the expense and income entries should be taken to show the surplus or deficit for a given program or group of programs. In this way, it is possible to see which activities support themselves and which do not, and to what degree.

Furthermore, grouping income with expense is necessary if we are to see the full implications of program changes. In these times when we are looking so hard for ways to save money, it is natural to search out programs that are relatively expensive and which do not seem to provide more benefits than less expensive programs. However, the expensive programs may also carry large amounts of income with them in the form of restricted endowment, restricted grants, or tuitions, and cutting out the program could result in little, if any, net saving. Thus, in considering program cuts, it is important to have a program budget that associates income with expenses.

Establishing Program Categories. -- From a conceptual standpoint the most basic question to be answered at the outset of any attempt to develop a unified program budget is: what are the "outputs" or "final products" of the institution? Only on the basis of an answer to this question can the expense and income data be organized according to a set of program categories.

We concluded that, at the level at which we were working, there were three main programmatic activities of a university such as Princeton: (1) the education of undergraduates; (2) the education of graduate students; and (3) research and the preservation of knowledge.

The ultimate impact of these outputs of the University on society is of course a much more difficult issue. One's assessment of final effects depends on many other considerations affecting both the goals of the larger society and means of achieving the goals, and the relationships involved are much too complex even to consider here. The question of ultimate impact is, of course, a critical one when deciding how much of the Federal budget should be devoted to higher education. In resource planning for a particular university, however, it is sufficient for most purposes to concentrate on the direct outputs of the institution itself (and hence on the resources devoted to these outputs). At the same time it should be recognized that these outputs may represent only intermediate products when viewed from the perspective of society as a whole.

Even within the context of the three direct outputs of the University listed above, serious questions can be raised concerning what is an intermediate and what is a final product. For example, there is some question whether graduate education should be a separate category or whether it should be viewed as a part of both (a) instruction and (b) research and the preservation of knowledge. Graduate education could be viewed simply as the preparation of individuals to continue on with teaching and with research and the preservation of knowledge. However, graduate students end up doing many different things beyond just teaching and research, and the proportion of graduate students who work only within the fields of education and research seems likely to decline, if anything, in the next few years. The resources devoted to graduate education are substantial, and, on balance, it seemed best to treat it as a separate category. From a practical standpoint, it is obvious that many policy decisions depend on a direct assessment of graduate programs.

The three categories chosen cover virtually all of Princeton's activities as a university. There are some public service activities (such as educational programs for area high school students) which do not fit into this framework. However, the financial resources devoted to these other activities are relatively modest, and we have put them in our "unallocated" category for the present time. For some other colleges and universities -- especially those with major programs involving the communities in which they are located -- it might be better to establish a fourth major category.

Cost distributions. -- Broadly speaking, there are two kinds of cost distributions to be made, one resulting in estimates of average costs and one resulting in estimates of incremental costs.

The distribution leading to average cost figures is relatively straightforward from a conceptual standpoint even though a number of more or less arbitrary assumptions must be made in prorating costs. In essence, the process of estimating average costs consists simply of establishing total cost pools and then dividing the total costs in some reasonable way (and this is where the arbitrary assumptions enter) among all programs.

The incremental costs of program categories are also easy to define -- at least in general terms. In the terminology of program budgeting, the incremental cost of a program category is the amount that would be saved if the whole program represented by the category were eliminated while all other programs remained the same. (This definition differs from the concept of "incremental" generally used in the economics literature, where "incremental costs" refer to the additional costs associated with adding or subtracting a small increment of product.)

In working with the incremental cost concept of program budgeting it is necessary to watch out for certain pitfalls. In particular, it is important to recognize that the sum of the incremental costs of units which make up a larger unit cannot be assumed to equal the incremental cost of the larger unit. The reason is that the "lumpiness" of certain central services means they will exist in largely the same form regardless of the number of program units which they serve (over some range). For example, the incremental cost for an individual undergraduate program would contain practically nothing for such indirect supporting activities as the Office of the Registrar or the Counseling Service because eliminating a single program would have a negligible effect on such central services. The incremental cost for the entire undergraduate program, on the other hand, would contain all of the costs of indirect supporting services geared specifically to the undergraduate college.

Since the sum of incremental costs of sub-units need not equal the incremental costs of the whole unit, it is necessary to have an entry labeled "unallocated." An incremental cost distribution is then translated into an average cost distribution by spreading the unallocated costs over the various program units.

Levels of Program Budgets. -- As the above discussion indicates, and as was explained earlier in our general discussion of program budgeting, several different levels of program budgets are possible. These levels differ among themselves with respect to the units taken to build up the incremental costs of the output categories. The level of the program budget closest to the traditional version of the budget discussed in Section I of this report is what we call the "departmental level" program budget. The format of this version of the program budget (Format I) is organized by departments just as the traditional budget. It differs from the traditional budget in two respects. The first is that operations and maintenance of buildings and equipment acquisition for each department are grouped with the other departmental expenses. The second is that the costs for each department are broken down into the incremental costs of the output categories considering that department in isolation (and into an "unallocated" category when average cost distributions are not made).

The "final" or most aggregated level of the program budget is the "University level." The format of this version of the program budget is organized in terms of the three basic outputs, and all costs are distributed among undergraduate education, graduate education, research and preservation of knowledge, and an "unallocated" category. The cost distributions (excluding "unallocated") approximate the incremental costs of each of the three major program categories. In most cases, departments are split up, and the components are distributed among the three basic output categories. In some cases, however, departments are concerned with only one output and are placed directly with that output (e. g., the Office of the Dean of the Graduate School).

In between these two extreme formats for the program budget, viewed from the standpoint of level of aggregation, are several intermediate formats. One of these is a format organized by groups of departments with primary headings such as academic departments, academic support, university services, and so on. Each of these headings would be subdivided into the output categories. Other possible formats would cover subgroupings of all the university activities organized by functional categories such as coeducation, foreign and international studies, and so on. To repeat what was said above, these partial groupings would be overlapping and therefore would not represent a mutually exclusive set of program categories for the whole university.

The following two sections describe the department level format and the University level format. The department level format comes in two versions, "Version A" which contains an unallocated category, and "Version B" which has the unallocated expenses and income of Version A distributed to the main output categories in order to obtain average costs.

Format I - The Department Level Program Budget. -- As discussed above, this format of the program budget is organized by departments and is closely related to the traditional budget discussed in Section I. In order for a program budget to be useful for internal management, it must be related to the way both the central administration and the operating departments think about the budget. The central administration and the departmental chairmen tend to think of the undergraduate program for a given department primarily in terms of the department total rather than in terms of the total for all undergraduate programs. Thus we believe that for internal management, this format of the program budget, structured along department lines with operations and maintenance costs and equipment costs allocated to departments, may be the most useful. In this format (Format I) the costs for each academic department are broken down into Undergraduate, Graduate, Research, and Unallocated. A sample of Format IA follows. Format IB differs only in that it has the unallocated expenses and income of Format IA allocated to the other program categories. An important advantage of this format is that both the central administration and the departmental chairmen can see the resources that are assigned to each department. These resources include the direct costs of operating the department, the support of the department's graduate students, and the operation and maintenance costs of the space assigned the department. With a budget organized in this way, the departmental chairmen have an incentive to propose trade-offs among these categories for a more efficient use of resources. In addition, the central administration has a clear impression of the costs associated with the outputs of each department. Moreover, this budget is close enough to actual organizational structure that the translation from it to the traditional Controller's budget is relatively simple. This format can also be used to produce the financial data for the University's long range plan since it too probably should be organized along department lines.

To permit evaluative judgments, this format would need to be used in conjunction with Forms 1, 2, 3A, 5, 6, 7, and 8 described earlier. These forms give the faculty FTE's for each department and also the enrollments and course contact hours (the teaching personnel inputs and the enrollment outputs). We have developed a generalized Form 7 (Form 7X) which shows the costs per unit of instruction for each department obtained by dividing each of the expense totals and nets of the program budget format by FTE students.

Table 3

PROGRAM BUDGET

Format IA

1	DEPARTMENT Philosophy		
2	Undergraduate		
3	Operating		
4	Direct		
5	Expenses		
6	Faculty Salaries and Benefits	-xxx	
7	Other Salaries and Benefits	-xxx	
8	Other Expenses	-xxx	
9	Total Expenses	-xxx	
10	Income		
11	Endowment	xxx	
12	Gifts and Grants	xxx	
13			
14			
15	Total Income	xxx	
16	Net Direct		xxx
17	Physical Support		
18	O&M		-xxx
19	Major Maintenance		-xxx
20	Equipment Acquisition		-xxx
21	Net Operating		-xxx
22	New Construction		-xxx
23	Graduate		
24	Operating		
25	Direct		
	⋮		
26	Net Direct		xxx
27	Direct Support		
28	Support of Graduate Students		
29	Expenses	-xxx	
30	Income	xxx	
31	Net Support of Graduate Students		xxx
	⋮		
32	Net Operating		xxx

Table 3 (continued)

33	Research and Preservation of Knowledge		
34	Sponsored Research		
	.		
	.		
	.		
35	Non-Sponsored Research and Preservation of Knowledge		
	.		
	.		
	.		
36	Unallocated		
	.		
	.		
37	Department Summary		
38	Operating		
39	Direct		
40	Expenses		
41	Faculty Salaries and Benefits	-xxx	
42	Other Salaries and Benefits	-xxx	
43	Other Expenses	-xxx	
44	Total Expenses	-xxx	
45	Income		
46	Endowment	xxx	
47	Gifts and Grants	xxx	
48			
49			
50	Total Income	xxx	
51	Net Direct		xxx
52	Direct Support		
53	Support of Graduate Students		
54	Expenses	-xxx	
55	Income	xxx	
56	Net Support of Graduate Students		xxx
57	Physical Support		
58	O&M		-xxx
59	Major Maintenance		-xxx
60	Equipment Acquisition		-xxx
61	Net Operating		xxx
62	New Construction		-xxx

Format II - The University Level Program Budget. -- The following two tables summarize our initial allocations of expenses and income for FY 69 among the three major program categories at the University level. The first table (Version A of Format II) contains an unallocated category and represents a rough incremental distribution of costs, whereas in the second table (Version B of Format II) all costs are distributed among the three program categories.

In the rest of this section we outline in a very general way the methods used to arrive at these results. Appendix D provides more of the details of the cost allocations and includes a more detailed version of Format IIA, while Appendix E explains the derivation of Format IIB.

We have made our cost allocations in two steps. The first step concerns the allocation of the costs of activities or functions performed by various offices and departments of the University. The second step concerns the physical support for these various activities.

In the first step we attempted to divide the activities of the University into (1) "direct activities" -- i. e., those which are directly associated with the outputs of the program categories; (2) "direct support activities" -- i. e., those which support the direct activities in a straightforward way; and (3) "indirect support activities" -- i. e., those which support all activities indirectly. To illustrate, instruction at the undergraduate level constitutes a "direct activity" associated with the undergraduate program. The "direct support activities" for the undergraduate program include, for example, undergraduate admissions and student aid, undergraduate dormitories and food services, and intramural athletics. Finally, there are those activities which tend to support all the program categories in an indirect way, and for which there is no clear relationship between their level of activity and the level of activity in any one program category. These indirect support activities encompass all of what might be called the central administration and include the President's Office, the Controller, and so on.

Table 4

PROGRAM BUDGET FY 69

Format IIA: University Level, Incremental Cost Distribution

Summary

	$ Millions	% Operating Expenses
I. Undergraduate		
Operating Expenses	-11.0	15.1%
Operating Income	+14.2	
Operating Net	+ 3.2	
New Construction Expenses	- 1.3	
II. Graduate		
Operating Expenses	- 7.9	10.9%
Operating Income	+ 9.2	
Operating Net	+ 1.3	
New Construction Expenses	- 0.4	
III. Research and Preservation of Knowledge		
Sponsored Research		
Operating Expenses	-29.0	39.8%
Operating Income	+29.0	
Operating Net	0.0	
New Construction Expenses	- 3.1	
Non-Sponsored Research and Preservation of Knowledge		
Operating Expenses	-10.2	14.0%
Operating Income	+ 4.1	
Operating Net	- 6.1	
New Construction Expenses	- 1.5	
IV. Unallocated		
Operating Expenses	-14.7	20.2%
Operating Income	+16.6	
Operating Net	+ 1.9	
New Construction Expenses	- 5.4	
GRAND TOTAL		
Operating Expenses	-72.8	100.0%
Operating Income	+73.1	
Operating Net	+ 0.3	
New Construction Expenses	-11.7	

Table 5

PROGRAM BUDGET FY 69

Format IIB: University Level, Average Cost Distribution

Summary

	$ Millions	% Operating Expenses
I. Undergraduate		
Operating Expenses	-13.6	18.7%
Operating Income	+15.1	
Operating Net	+ 1.5	
II. Graduate		
Operating Expenses	-10.1	13.9%
Operating Income	+ 9.9	
Operating Net	- 0.2	
III. Research and Preservation of Knowledge		
Sponsored Research		
Operating Expenses	-35.3	48.5%
Operating Income	+34.8	
Operating Net	- 0.5	
Non-Sponsored Research and Preservation of Knowledge		
Operating Expenses	-13.8	18.9%
Operating Income	+ 5.2	
Operating Net	- 8.6	
IV. Income Unrelated to Expenses	+ 8.1	
GRAND TOTAL		
Operating Expenses	-72.8	100.0%
Operating Income	+73.1	
Operating Net	+ 0.3	

For Format IIA, we placed the first two types of activities (direct and direct support) with their respective output program categories while the indirect support activities were consigned to an unallocated category. Of course a true incremental costing of the three output categories would also include some part of these indirect support activities. However, calculating this part would be both complicated and of dubious value. It would be complicated because we would have to perform detailed workload surveys to see what relationships exist between these activities and instruction and research. It would be of dubious value since the results of such an analysis would hardly be conclusive and since the program changes likely to be considered are much smaller than the removal or addition of the whole of undergraduate or graduate instruction. Moreover, as long as this unallocated category is relatively small (we believe it to represent about 15% of the University's expenses), most of the information about overall levels of effort can be obtained from Versions A and B of Format II. These versions bound the "true" incremental costs of the major program categories.

The second step in the process of constructing Format II is the allocation of physical support costs to all activities -- direct, direct support, and indirect support. These physical support costs are space costs (operation and maintenance of buildings) and equipment acquisition costs. There are, of course, some physical support costs which cannot be tied to particular activities, such as the costs associated with roads, walks, and lawns, and operations of University commercial properties. We have grouped these unallocated physical support costs with the indirect support activities in the unallocated category. The unallocated physical support costs represent about 5% of total University expenses. All together, then, the unallocated category represents about 20% of total University expenses.

We shall not attempt here to summarize the detailed account of the process of allocating costs and income which is contained in Appendices D and E. However, there are two particular allocations of such central importance that they must be mentioned here: space costs and faculty salaries.

The principal problem we faced in allocating the costs of building space was devising a relatively simple method of spreading these expenses which would nevertheless minimize the anomalies which always may result from application of a single arbitrary rule to many different types of situations. We considered, but decided against, distributing space costs in proportion to direct salaries; the drawbacks of this allocation method were particularly apparent in the case of athletic facilities.

We finally concluded that square footage was the best measure. The operating costs of each building have been split in proportion to the square footage of offices, classrooms, instructional and research laboratories, and so on. The cost of faculty offices is prorated in the same proportion as the distribution of the individual faculty members' salaries. Classrooms and instructional laboratories are prorated between graduate and undergraduate use in proportion to the actual hours of utilization. And research space is divided between sponsored and nonsponsored according to the actual use of the individual laboratory facilities.

The second allocation of primary importance is faculty salaries. This is particularly critical because the distribution of most of the other expenses of academic departments is based on the faculty salary allocation. The allocation of faculty salaries also raises many of the most fundamental issues which must be faced in attempting to make any allocation of university costs in the context of a program budget.

In brief outline, we allocated faculty salaries in three steps. First, salaries charged directly to sponsored research projects were allocated to the sponsored research category. Second, we made estimates of time devoted to undergraduate and graduate instruction and "unallocated" activities (such as chairmanship duties) based on the CAFSIS reports (see Appendix C). Third, the allocation to nonsponsored research and preservation of knowledge [illegible] derived as a residual by subtracting the time devoted to the other activities from an assumed total work week of fifty hours. (All paid leaves of absence are also included in the "nonsponsored research" category.)

By its very nature, this last category (nonsponsored research and preservation of knowledge, including "keeping up with the field") is very difficult to measure accurately. Its calculation as a residual also subjects it to considerable uncertainty. The steps described above led to an estimate for nonsponsored research and keeping up with the field equal to roughly 50% of faculty salaries other than those charged directly to sponsored research. We have no great confidence in this precise result, however, and the "true" figure could certainly by anything from, say, 30% to 60% of faculty salaries. (The "true" percentage of faculty time will be lower than the true percentage of faculty salaries since the proportion of time devoted to nonsponsored research appears to be higher for the more senior -- and thus, in general, better paid -- members of the faculty.)

Conduct of some "sensitivity" experiments gave us some comfort, however, since it appears that the overall results are not affected materially so long as the nonsponsored research component is somewhere in the range between about one-third and one-half of faculty salaries not charged to research projects.

Derivation of faculty salary allocations in this way does have two important implications for actual decision making:

First, the fact that our allocation methods involve splitting up the time of individual faculty members means that further analysis to determine true incremental costs will always be necessary to determine actual available alternative courses of action when anything less than a decision to terminate an entire department is under consideration. Thus, for example, the decision to suspend the Slavic Languages and Literatures graduate program could not lead to dollar savings exactly equal to the sum shown under graduate education on the format for that department. The reason is, of course, that the same individuals do more than one thing, and perfect substitutability of individuals across tasks is not possible.

Second, the existence of the sizeable nonsponsored research category (which might also be appropriately regarded as a minimum commitment to reading, to scholarship, and to research if quality instruction is to be provided at an institution offering graduate and undergraduate work) has a very direct bearing on decisions to increase or decrease resources devoted to graduate or undergraduate teaching. For example, one may not simply make a decision to increase resources devoted to undergraduate instruction without at the same time acknowledging that the nonsponsored research category will increase as well -- simply because the additional faculty members needed for undergraduate instruction would themselves have to devote a significant amount of time to keeping up with their fields if their instruction was to be of high quality over any period of time. On the other hand, a decision merely to transfer resources from graduate instruction to undergraduate instruction (or vice versa) might perhaps be made without altering substantially the nonsponsored research category.

In a very real sense, then, the category of nonsponsored research and preservation of knowledge (which includes major parts of the costs of such essential instruments of scholarship as the Library and the Computer Center) represents the "core" of the University -- the minimum outlay required in order to have undergraduate and graduate programs of a certain quality.

The size of this core for Princeton is large, relatively speaking, and reveals much about the nature of the university. Its magnitude indicates the considerable stress Princeton places on the research and keeping-up-with-the-field activities of its faculty, an emphasis which is expected to benefit the University's teaching program. (For example, Princeton's library operating budget is five to ten times higher than those of many outstanding undergraduate colleges.) We believe that Princeton must bear these substantial "core" costs in order to assemble and retain a high quality group of scholars in each of the major fields of study which the University attempts to cover.

The two accompanying tables (6 and 7) illustrate this conception of the role of nonsponsored research -- that it is an essential part of the cost of both graduate and undergraduate programs of instruction. In each table, we have allocated all costs of nonsponsored research and the preservation

Table 6

PROGRAM BUDGET FY 69

Format IIA

Summary

	$ Millions	% Operating Expenses
I. Undergraduate		
Operating Expenses	-15. 7	21. 6%
Operating Income	+16. 1	
Operating Net	+ 0. 4	
II. Graduate		
Operating Expenses	-13. 4	18. 4%
Operating Income	+11. 4	
Operating Net	- 2. 0	
III. Research		
Sponsored Research		
Operating Expenses	-29. 0	39. 8%
Operating Income	+29. 0	
Operating Net	0. 0	
IV. Unallocated		
Operating Expenses	-14. 7	20. 2%
Operating Income	+16. 6	
Operating Net	+ 1. 9	
GRAND TOTAL		
Operating Expenses	-72. 8	100. 0%
Operating Income	+73. 1	
Operating Net	+ 0. 3	

Table 7

PROGRAM BUDGET FY 69

Format IIB (Without Unallocated)

Summary

	$ Millions	% Operating Expenses
I. Undergraduate		
Operating Expenses	-20.0	27.5%
Operating Income	+17.5	
Operating Net	- 2.5	
II. Graduate		
Operating Expenses	-17.5	24.0%
Operating Income	+12.7	
Operating Net	- 4.8	
III. Research		
Sponsored Research		
Operating Expenses	-35.3	48.5%
Operating Income	+34.8	
Operating Net	- 0.5	
IV. Income Unrelated to Expenses	+ 8.1	
GRAND TOTAL		
Operating Expenses	-72.8	100.0%
Operating Income	+73.1	
Operating Net	+ 0.3	

of knowledge to the undergraduate and graduate programs in proportion to the faculty salaries distributed to those programs. Table 6 contains the unallocated category discussed earlier, while Table 7 has this component distributed among the other categories.

Conclusions: Program Budgeting at Princeton

We should first emphasize that our conclusions about program budgeting at Princeton must be more provisional than our conclusions about other aspects of this study, for the simple reason that we have had more actual experience in implementing the more traditional resource allocation methods. Having said this, however, we hasten to add our conviction that program budgeting -- and particularly the techniques of analysis associated with it -- can be of great value in a university setting.

At the same time, we do not believe that all of the elements of a total program budgeting system are appropriate at a university such as Princeton. In the paragraphs that follow, we will describe the elements of program budgeting we have found to be particularly valuable. At the end of this section, we will add some comments concerning the limitations of program budgeting.

1. Perhaps the most salutary result of thinking in program budget terms has been a greater awareness of the total costs of various University activities. This awareness is particularly keen on the part of members of the central administration and the Priorities Committee; as time goes on, we hope that department chairmen (in particular) and other members of the University community will think more in these terms as well.

2. As a corollary to this observation, the program budget approach forces one to focus on the total implications of decisions which are under consideration. A recent concrete example of the application of this sort of analysis was a decision not to offer an appointment to a prospective faculty member because of the very high cost of making it possible for him to pursue his particular field of specialization here at Princeton.

3. The analytical techniques and the formats of presentation have proved particularly valuable (indeed essential) in establishing user charges of various kinds -- from faculty rents to undergraduate room and board charges.

4. A multi-year planning context is essential not only because commitments (to students and others) must extend over at least this period of time, but for other reasons as well. For example, we have already found that the existence of an approved provisional plan means that the central administration and the Priorities Committee do not need to examine -- in nearly so much detail -- every area of the budget every year.

5. Although no program budget system can pretend to answer all possible questions which may arise, the very existence of some system assures that at least the basic data will be available when needed to answer questions no one has yet asked, and to help solve problems which have not yet arisen.

6. There may be ancillary benefits of the system, and these are still being explored. For example, it may be possible to use some of the program budget work done to date to obtain indirect cost allocations needed in conjunction with Government sponsored research contracts; these have been obtained mainly through hand calculations in the past.

At the same time that we recognize these advantages, it is important not to oversell program budgeting. Our experience leads us to conclude that some elements of a total program budgeting system may be inappropriate at a college or university like Princeton. Also there are several general cautions which need to be kept in mind in considering the application of program budgeting to colleges and universities.

1. The first limitation of any system of this kind is simply the difficulty of quantifying goals, especially where quality is much more important than quantity.

2. A great deal of time and effort are required not only to develop a system but to keep the system and the data necessary for its functioning correct and up-to-date. And, we doubt seriously the wisdom of attempting

to apply all elements of the system to a university such as Princeton, especially on an annual basis. Major changes simply do not occur that frequently. Moreover, the division of the total university budget between graduate education, undergraduate education, and the like may be a much more valuable exercise in a university which has separate faculties (which Princeton does not) and where there is less interaction among these activities. There is considerable arbitrariness and a certain unreality about any such exercise in proration in our context. In thinking about investments in program budgeting, these limitations need to be considered, as well as the costliness of the budgeting process. Surely it makes no sense to apply cost-benefit analysis to everything but cost-benefit analysis itself.

3. In utilizing any of the outputs of the system, one must keep in mind that further analysis will almost always be needed, for example to determine real incremental costs when considering the suspension of a program of graduate studies in a particular department. The existence of some allegedly "hard data" should not be allowed to delude decision-makers into thinking that the process of analysis is over.

4. We suspect that if we had started out in the first instance to develop a total system, rather than beginning with partial analyses related to particular problems, that the very real benefits to us of program budgeting would have been delayed considerably. Indeed, if we were to try to single out one of the most important lessons to be learned from our experience, it would be that really significant benefits of program budgeting often lie in partial analyses, which can be done without a total system.

5. As has been stressed at several points in this report, it is exceedingly important to maintain a tie between the program budget system and the accounting records of the University. If this is not done, the numbers in the program budget system may have far too much of a life of their own, and as a result they will be ignored because they cannot be linked to data used to control expenditures. A close tie must also be maintained between the budget system and the manner in which the university (or any other organization) is managed.

6. Finally, and perhaps this point is as obvious as it is important, no budgeting system, however sophisticated, is more than an aid in the painfully human process of making choices. A good system can clarify the nature of the alternatives, but the choices themselves must be rooted in the values of the institution and related to a myriad of factors that are hard if not impossible to measure -- especially the quality of the leadership available in one area as opposed to another. Ironically, the better one understands a program budgeting system, the less likely one is to follow its apparent implications in a mechanistic way. Program budgets can be very valuable in helping to evaluate propositions based on what are all too often unspecified assumptions -- and sometimes myths -- that institutions have about themselves. But no set of numbers ever tells the full story, and the more experience one gains with techniques of quantitative analysis in a university setting, the greater the awareness of the peculiarly human nature of the educational enterprise.

APPENDIX A

BUDGET INSTRUCTIONS

Princeton University: DEPARTMENT -- Office of the Budget Director

To Chairmen of Academic Departments DATE SEP 21 1970

SUBJECT Budgeting for 1971-72

FROM Carl W. Schafer

INTER-OFFICE CORRESPONDENCE

NOTE: The enclosed instructions (and this memorandum) are intended to be "standard" instructions, which will change little from year to year. Policy guidance applicable to budget preparation for a particular year will be supplied in a separate document. This year, this guidance is contained in the separate memorandum from the Provost which you have recently received.

Enclosed are the materials to be used in submitting your budget requests for 1971-72. This memorandum discusses the budgeting procedures in general terms. Detailed instructions for completing the particular forms are attached.

Purposes of the Budgeting Procedures

As was explained last year, the purposes of the budgeting procedures are:

1. To encourage Departments to think in terms of an overall teaching budget in developing their manning proposals.
2. To make it easier for Departments to relate manning proposals to such factors as: (a) impending retirements and terminations; (b) trends in course enrollments and in total classroom contact hours; (c) the amount of academic-year hours and salaries charged to sponsored research or to other Departments and activities.
3. To enable the central administration to do a better job of comparing the merits of competing claims for funds before commitments are made.
4. To facilitate the development of an overall "trial budget" for the University as a whole sufficiently far in advance of the start of the fiscal year to permit more intelligent budget decisions.

The Forms

This budget "package" contains six forms (Forms 1, 2, 3, 5, 6, and 10).

Forms 1, 2, 3, and 5 concern only Faculty and other personnel engaged in teaching at undergraduate and graduate levels. These forms are very similar to the ones used last year. Forms 1 and 2 contain background information concerning staffing in your department in 1969-70 and 1970-71 which we hope will be helpful to you. Form 3 concerns your requests for teaching staff for 1971-72, and this is the only one of the first four forms that you are to fill out. Form 5 is a summary of Forms 1 and 2, and the totals for 1969-70 and 1970-71 are already recorded in the form.

Form 6 contains various pieces of information concerning the undergraduate and graduate teaching programs in your Department in 1969-70 and (estimated) 1970-71 and 1971-72. It also provides historical information of a similar kind going back to 1965-66. We are not asking you to enter anything on Form 6 unless you disagree with the projections shown.

Form 10 serves to record information concerning all categories of salaries and operating expenses other than salaries of teaching personnel (i.e. salaries of administrative, supporting, and research staff, other expenses, etc.). Actual figures are shown for 1969-70 along with current estimates for 1970-71. You will need to record your expectations and requests for 1971-72 on this form. In the case of sponsored projects, we recognize the extreme difficulty involved in making estimates. The Office of Research and Project Administration is planning to assist you in arriving at what must be crude estimates.

A brief note concerning the instructions accompanying these forms. We thought that it would be helpful to make the instructions as clear and complete as possible in order to minimize ambiguities and confusion. One unfortunate consequence is that they are quite long. Please note, however, that in many instances the explanations and comments apply only to certain Departments and need not concern the rest of you. This is particularly true of the instructions relating to sponsored research.

Suggestions Concerning the Completion of the Forms

We suggest that Departments approach the task of filling out these forms by first considering the teaching needs that will have to be met in 1971-72. The information on Form 6 should be helpful in this regard. Although the historical information contained in Form 6 is rough and often inaccurate (it was not originally collected with an eye to being used in this way), it should at least serve as a point of departure.

The problem of estimating staffing needs for 1971-72 can then be approached by supplementing the information on numbers of students with an analysis of the fields that must be covered, etc. It is at this point that Form 3 becomes relevant. It sets out in detail both present staffing commitments for 1971-72, and those which will terminate in June 1971. However, it does not contain any information concerning anticipated retirements or leaves. With such additional information the Department can determine who will in fact be here and which Departmental needs they can meet. The balance will have to be covered by new appointments (or reappointments) in the various Ranks, including graduate teaching assistants. Once completed, Form 3 for all the Ranks will contain the recommendations of the Department for its total Faculty table of organization for 1971-72.

In completing Form 3, please note that:

1. Departments are not being asked to make recommendations at this time concerning salary increases for continuing personnel -- rather, for the purpose of these calculations, we are asking that the individual's 1970-71 salary arbitrarily be carried forward for 1971-72 if his appointment continues. Departments will be notified later of the funds available for merit increases, and the amounts that can be made available for this purpose will, of course, depend partly on the number of new positions included in the budget.

2. The needs of the so-called Special Programs (mainly interdepartmental teaching programs and research sections and centers) must be considered in determining Departmental recommendations. The Directors of all Special Programs are being asked to prepare their own budgets, and these must be coordinated with the submissions of the regular Departments.

After Form 3 has been completed, the implications of the recommendations concerning Faculty Staffing should be taken into account in arriving at the requests for supporting staff, appropriations for other expenses, etc., which are to be recorded on Form 10.

Supporting Memorandum

NOTE: Please return the original and four (4) copies of the supporting memorandum with your completed budget forms.

As in past years, Departmental chairmen should return a covering memorandum with the completed forms. This memorandum will be extremely important in reviewing Departmental requests, and we suggest that it contain the following sections:

1. Any general comments on the overall staffing needs of the Department in 1971-72, as affected by estimates of enrollment and curricular plans, that will help us understand the reasons why the Department has recommended meeting these needs by the particular table of organization proposed on Form 3 (so many Assistant Professors, so much use of graduate students, etc.).

2. A discussion of any significant changes in the proposed distribution of charges by source of funds. Thus, if the portions of Faculty salaries charged to, say, sponsored research or restricted accounts, are to be changed, an explanation will be appreciated.

3. Any Department requesting permission to make a new appointment at the tenure Ranks -- whether the position is to be filled by the promotion of someone now on the Faculty or by an appointment from outside -- should provide a full explanation of the reasons for the request. If your Department is requesting more than one such position, please indicate explicitly the order of priority.

4. If your Department is recommending the appointment of any additional Faculty or research personnel (regardless of Rank), a discussion of the implications for

   --office space (including renovation)

   --laboratory space (including renovation)

   --equipment purchases

   --library needs

   --graduate student quotas and support

   --secretarial assistance

   --other additional expenses.

Details of capital requirements (including space needs) will be requested later on Forms 14 and 15. The discussion in your covering memorandum should, however, identify the magnitude of such requirements insofar as they relate to new personnel.

5. For each line on Form 10 concerning supporting staff and operating expenses for which the Department is requesting an increase in appropriations, please provide a full justification. This should include, in the case of proposed new positions, a description of each position and the salary proposed.

6. If your Department is requesting any increase in expenditures (excluding, of course, increases attributable to general salary increases), please indicate whether any of the proposed increases can be met from sources other than general funds (i.e. restricted departmental accounts, new sponsored projects, new foundation or other grants to the University). To assist with this task, we have enclosed a summary of estimated restricted income for all Departments possessing significant accounts of this nature.

7. If you wish to utilize the services of graduate students as assistants in instruction in the Department's teaching program for 1971-72, please indicate the number of semester teaching hours you propose be provided by teaching assistants, and any other relevant information for consideration by the Dean of the Faculty.

Time Schedule

The deadline for return of the completed forms and the supporting memorandum is September 29th. The ensuing weeks will be required to compile and analyze the returns, to consult with Department Chairmen, to present policy issues to the Priorities Committee of the Council of the Princeton University Community, and to make determinations concerning the overall budget. Decisions will be made with respect to Departmental faculty manning requests just as soon as adequate consultation permits, and every effort will be made to respond to all such proposals by mid-November.

Assistance in Preparing Budget Materials

All questions concerning the budget forms and the budget process should be addressed to me in the first instance. My office is 220 Nassau Hall, and my telephone extension is 3108.

Other members of the Administration -- especially Dean Lester, Provost Bowen, Mr. Maruca, and Mr. Ostrom -- will be glad to assist in any way they can, and I shall not hesitate to refer questions to them when that seems appropriate.

We are anxious to help in any way possible, and we hope you will not hesitate to call us.

Princeton University: DEPARTMENT -- Office of the Budget Director

To Administrative Department Heads
DATE SEP 21 1970
SUBJECT Budgeting for 1971-72

ROM Carl W. Schafer

INTER-OFFICE CORRESPONDENCE

NOTE: The enclosed instructions (and this memorandum) are intended to be "standard" instructions, which will change little from year to year. Policy guidance applicable to budget preparation for a particular year will be supplied in a separate document. This year, this guidance is contained in the separate memorandum from the Provost which you have recently received.

Enclosed are the materials to be used in submitting your budget requests for 1971-72.

Purpose

The budgeting procedures this year, as last, have been designed:

--to enable the central administration to do a better job of comparing the merits of competing claims for funds before commitments are made, and

--to facilitate the development of an overall "trial budget" for the University as a whole sufficiently far in advance of the start of the fiscal year to permit more intelligent budget decisions.

Preparing the 1971-72 Budget

Preparation of 1971-72 budget requests for the Administrative Departments is essentially a two-step process:

First, you will need to determine the nature of the program you wish to carry on next year. For planning purposes only, all Administrative Departments should make the same assumptions with regard to certain factors affecting workload in 1971-72. One factor -- continued implementation of coeducation -- is sufficiently certain to make it reasonable to use as a guide. Accordingly, you should assume the arrival of about 200 new undergraduate women in 1971-72.

In the case of certain other factors, it is not possible to be definitive at this time. The likely size of the Faculty, administrative staff, etc. will not be known, of course, until the budget submissions of all Departments have been received. Nevertheless, in the interests of having all departmental budget submissions on the same basis, please make your requests on the following assumptions:

--No change in 1971-72 in numbers of Faculty, administration, graduate students, and undergraduate men.

--Full operation of the addition to the Princeton Inn on September 1, 1971.

--No other major additions to physical plant completed before June 30, 1972.

Second, you will need to fill out the enclosed Forms 10 to record your specific requests. Detailed instructions for completing the forms are attached. Several general points are pertinent:

1. Three copies of Form 10 are enclosed. Two copies should be filled out -- one for retention for your records, another for return to the Office of the Associate Controller and Associate Budget Director, 3rd floor, New South Building. The third copy may be used as a rough draft if desired.

2. Entries should be clearly legible.

3. In general, the salary data pre-printed on the form have been derived from the Controller's budget records:

   --For 1969-70, the data have been updated to reflect final budget results for the year. (A copy of the final 1969-70 Controller's salary budget is enclosed.) In some of the cases in which organizational changes have occurred, the 1969-70 data have been rearranged on form 10 to match the 1970-71 structure, so that information for all three years on the form will be comparable.

   --For 1970-71, the data on the form have been derived from the latest version of the Controller's salary budget, a copy of which is enclosed.

4. Salary information should, of course, be kept confidential.

5. The enclosed material frequently contains references to various Departments of the University by Department number. This is a three-digit number assigned to each Department in the University's financial system. As an aid to the use of the material, there is enclosed a list of Departments, with their 1970-71 numbers.

6. The Form 10 instructions have been designed for use by all Departments of the University. Some portions of them do not apply to the Administrative Departments. Specifically, you may ignore:

   --Item 3 of the "General" discussion.

   --Any and all references to Forms 1, 2, 3, 5, and 6. (These forms pertain only to Academic Departments.)

Supporting Memorandum

NOTE: Please return the original and four (4) copies of the supporting memorandum with your completed budget forms.

A covering memorandum should be provided with the completed Form 10. This memorandum will be extremely important in reviewing your requests, and we suggest that it contain the following sections:

1. Any general comments on the overall needs of your Department in 1971-72 that will help us understand your budget requests.

2. For each line on Form 10 for which you are requesting an increase in appropriations, please provide a full justification. This should include, in the case of proposed new positions, a description of each position and the salary proposed.

3. Where appropriate, a discussion of the workload of your Department, including any available workload statistics and their trends, would be very helpful. Particular reference should be made to any new tasks your Department will be performing in 1971-72, and to any old functions which will be discontinued.

4. A statement of any important assumptions you have made in arriving at your budget requests. This section would be particularly relevant in case there are major uncertainties affecting your program for next year.

5. If appropriate, a discussion of any management improvements you are making this year or plan for next year, particularly if these improvements would have an impact on your budget.

Time Schedule

The deadline for return of the completed Form 10 and the supporting memorandum is September 29th.

Assistance in Preparing Budget Materials

All questions concerning the budget forms and the budget process should be addressed to me in the first instance. My office is 220 Nassau Hall, and my telephone extension is 3108. Other members of the Administration will be glad to assist in any way they can and I shall not hesitate to refer questions to them when that seems appropriate.

We are anxious to help in any way possible, and we hope you will not hesitate to call us.

Instructions

Enclosed are one set of Forms 1 and 5, and three sets of Forms 2, 3, 6, and 10. Two sets of Forms 2, 3, 6, and 10 should be filled out (to the extent necessary) -- one for retention as a Departmental record, another for return to the Office of the Associate Controller and Associate Budget Director, 3rd floor, New South Building. The third set may be used as a rough draft, if desired. Entries should be clearly legible. Salary information should, of course, be kept confidential.

The basic scheme of the Forms is as follows:

--Form 1 presents information on the Department's teaching staff for the last completed academic year (1969-70).

--Form 2 presents similar information for the academic year just beginning (1970-71).

--Form 3 provides a means of recording your proposals in this regard for the academic year 1971-72, in a format similar to Forms 1 and 2.

--Form 5 summarizes the first two forms; it requires no entries by Departments.

--Form 6 provides historical information and projections of courses, Faculty course contact hours, enrollments, and other "non-dollar" data.

--Form 10 provides a means for recording 1971-72 budget requests for all Departmental staff and operating expenses not covered on Form 3.

General

1. The teaching Ranks have been treated on Forms 1, 2, 3, and 5 in five groups: Professors, Associate Professors, Assistant Professors, Lecturers, and Graduate Students. (For convenience of grouping, the Lecturer rank also includes Instructors, Visiting Ranks, and certain members of the professional research, professional technical, and administrative staffs who receive some portion of their salary for teaching.) An additional section relating to the teaching services of Faculty and other staff members of any Rank purchased from other Departments has been included when required.

2. Budgetary data have been provided for the academic years 1969-70 and 1970-71. Forms for estimation of the 1971-72 budget have also been provided. Each of these forms is discussed in detail below.

3. In general, the salary data pre-printed on the forms have been derived from the Controller's budget records:

--For 1969-70, the data have been updated to reflect final budget results for the year. (A copy of the final 1969-70 Controller's salary budget is enclosed.) In some of the cases in which organizational changes have occurred, the 1969-70 data have been rearranged to match the 1970-71 structure, so that information for all three years on the forms will be comparable.

--For 1970-71, the data on the forms have been derived from the latest version of the Controller's salary budget, a copy of which is included with these budget forms.

4. In general, it will not be necessary to add up the columns of figures to arrive at totals -- the computer will take care of this when you submit your proposed budget.

5. If any of the data already printed on the forms appear to be incorrect, the incorrect words or figures should be crossed out with a single line (so that the deleted material will remain legible) and the correct words or figures entered. An explanation for the change should be written on the face of the form or appended.

6. These instructions often refer to "Academic Departments" (those having Department numbers below 300). Certain of these Departments are not actually Academic Departments. However, since some of their functions are similar to those of Academic Departments, it has been found useful to include them with the Academic Departments for certain budgetary purposes.

7. The enclosed forms frequently contain references to various Departments of the University by Department number. This is a three-digit number assigned to each Department in the University's financial system. As an aid to the use of the forms, there is enclosed a list of Departments, with their 1970-71 numbers.

8. Note that Forms 1, 2, 3, and 5 contain no summer salaries. Summer salaries of Faculty members and graduate students are dealt with only on Form 10.

Form No. 1

This form is based on the actual academic year 1969-70 distributions as recorded by the Controller. The information is presented by Rank for four of the Rank groups (Professors, Associate Professors, Assistant Professors, and Lecturers), and for teaching services purchased from other Departments. (Information concerning graduate students is shown separately on Forms 5, 6, and 10.)

Column A: Payroll Number - This is a number assigned to each individual employed by the University to permit ready computer handling. It is used here for indexing and need be of no concern.

Column B: Name - The names of all the individuals of the above Ranks based in your Department (including those so carried for administrative convenience even though the majority -- or in some cases, all -- of their time may be spent in special programs or on administrative duty) are listed in this column. All names are listed according to the Rank the individual held at the end of the academic year 1969-70.

Column C: The Period of the Academic Year on Appointment - The academic year consists of the 10 months starting September 1st and ending the following June 30th. If a Visiting Lecturer, for example, was appointed for just the fall semester, the letter F will appear in this column; if just for the spring semester, the letter S will appear. When the period of appointment covers the entire academic year, the letters AY will appear. In the unusual case in which an appointment is for a period other than the academic year or one full semester, the designations described above have nevertheless been employed. (For example, an appointment for only a part of the fall semester will be identified by an "F.") Note that summer appointments (July & August) are not considered, and that it is period of appointment, not period of active duty at the University, that is used. Thus, someone on leave for the full year would still have AY noted in Column C, indicating that his period of appointment was the academic year.

Column D: The Percent of Duty Time - This is the fraction of full-time duty, while on appointment, that was expected of the individual. This percentage is unaffected by leaves of absence, someone on leave still being considered a full-time member of the

Faculty if he is normally full-time when not on leave. An entry will be made in Column D only if the percentage differs from 100%. Entries in Column D will occur frequently in the Visiting Ranks, but only rarely in the regular Ranks of the Faculty. A Faculty member on full-time appointment who took a year's leave of absence, with or without salary, would thus be shown with a blank in Column D, indicating 100% duty time. A Visiting Lecturer, on the other hand, hired to perform a specific task which took less than his full time for the period of his appointment would appear in Column D with a percentage represented by the ratio of his stipend to the full time salary that would be paid to someone of equivalent Rank and qualifications for the same period of time. This is sometimes hard to estimate and, not infrequently, the percent of duty time of part-time personnel must be rather arbitrarily assigned on the basis of comparison of the task performed to the full-time load commonly carried by others of equivalent Rank within the same discipline.

Column E: The Percent of a Full Time Equivalent - This represents the duty, expressed in percent of full time, provided by the individual over the full academic year. It is the same as the percent of duty time in Column D whenever the period of time on appointment (shown in Column C) is the academic year. It is one-half of the percent of duty time (Column D) whenever the period of time on appointment (Column C) is either the fall (F) or spring (S).

Column F: Total Academic Year Salary - The total salary paid by the University (including in the case of leaves without pay, an amount attributed to outside sources in lieu of University funds) to the individual during the academic year. It is the sum of the amounts shown in Columns G, H, J, K, M, and N.

Column G: Distribution to General Funds (1000 accounts) - The amount shown here represents the portion of the total academic-year salary (shown in Column F) that was paid from your Department's general fund accounts.

Column H: Distribution to Restricted Funds (2000 accounts) - This amount is the portion of the total academic year salary (shown in Column F) that was paid from special restricted funds such as those arising from Departmental grants or endowments, but excluding sponsored projects.

Column J: Distribution to Sponsored Projects (4000 & 6000 accounts) - This column represents the portion of the total academic year salary (shown in Column F) that was paid from Departmental accounts related to outside sponsorship of projects -- both government (6000 accounts) and non-government (4000 accounts).

Columns K & L: Distribution to Other Departments - It is not uncommon for a Faculty member based in one Department to provide services for the benefit of another. Sometimes this is done informally by mutual agreement between the Departments with no transfer of funds, but quite commonly the Department receiving the services transfers an appropriate amount from its budget to that of the "home" Department. Column K represents the portion of the total academic year salary shown in Column F which was paid by some other Department; Column L shows the relevant account number of the Department making the payment. The first three digits of the account number identify the Department; the last four digits identify the specific account within that Department.

Columns M & N: Distribution to Leaves of Absence - If a Faculty member on leave of absence received any portion of his total academic year salary from the University during this period of leave, this amount is shown in Column M. An amount representing the remaining portion of his total salary shown in Column F -- whether actually received from outside sources or not paid to him at all -- is recorded in Column N. (Note that Columns G, H, J, K, M, and N total horizontally to the academic year salary shown in Column F.)

Column O: Comments - Certain information required to explain the entries in the other columns is noted in this column. Considerably fuller detail may be found in the Controller's salary budgets for 1969-70 and 1970-71, relating to this form and Form 2, respectively. Copies of the final 1969-70 budget and the latest 1970-71 budget have been included with these budget forms. For example, a base salary figure will sometimes appear in this column (denoted by a dollar figure followed by the letters "BSE"). This entry is used when the total salary figure shown in Column F is different from the "regular" academic year salary of the particular individual. A difference would arise, for instance, if a Faculty member joined the University after the beginning of the academic year, and was therefore not paid a full year's salary. In this case, the amount actually paid would appear in Column F, and the full academic year salary would appear in

Column O. A difference would also arise when an individual (such as a Department chairman) receives an administrative override. In this case, the amount actually paid would appear in column F, and the "regular" academic year salary (excluding the administrative override) would appear in column O.

Column P: Field of Specialization - This column contains a two or three-word description of the Faculty member's major field of competence.

At the bottom of each rank section, the individual columns have been totaled. These totals might be regarded as "University Full-Time Equivalent Faculty" rather than Faculty actually available to each Department, since they include leaves of absence and charges made to other Departments.

Certain of the Rank sections have features requiring further explanation:

Lecturers Rank

1. In the section covering Lecturers, you will find that Instructors and Visiting Ranks have also been listed for convenience of grouping.

2. The names of any members of the professional research staff, professional technical staff, or administrative staff based in your Department who teach in your Department have also been listed. No individual in this category has been listed, however, if all of his academic year salary is charged to sponsored projects (4000 and 6000 accounts). Only the portion of these individuals' total academic year salaries which is attributable to the performance of teaching duties is shown. The reason for including these members of the non-Faculty Ranks on the form is to present a more complete picture of the resources actually devoted to the Department's program of instruction.

3. In Column O ("Comments") in this Section, the Rank of each individual (for example, "Visiting Lecturer" or "Research Scholar") has been indicated.

"Purchases from Other Departments" Rank

1. This section shows the teaching services of Faculty and other staff members of any Rank which were purchased from other Departments. The Department from which services were purchased is identified in each case by Department number in Column O ("Comments"). The enclosed list of Department numbers identifies the Departments corresponding to each of these Department numbers. The rank of each individual being purchased is also shown in Column O ("Comments").

2. In this section of the form, Column C (period of the Academic Year on Appointment) and Column D (Percent of Duty Time) are always blank. This is because only the portion of a full-time equivalent person being purchased (Column E) has relevance in the case of purchases from other departments.

Form No. 2

Form 2 is constructed in the same manner as Form 1 with each of the columns having the same significance. However, rather than reflecting final 1969-70 results, the data are derived from the latest Controller's budget for the current year 1970-71.

The following special considerations apply to Form 2:

1. Since the form contains information relating to the academic year just beginning, it is possible that Departments may wish to propose changes in the budget. Any proposed changes should be taken up with the Office of the Dean of the Faculty in the usual manner.

2. In a few cases, positions having payroll numbers in Column A beginning with "98" are shown on the forms. These entries represent vacancies now carried on the Controller's records. If it is not now planned to fill one of these vacancies, the line should be crossed off the form.

3. Column P (Field of Specialization) should be filled in for any position which now has that column blank. A two or three-word description will suffice. The fields of specialization already shown on the form may also be edited or corrected. Abbreviations should be used, if necessary, so as to limit the description to 14 characters and spaces.

Form No. 3

The basic purpose of Form 3 is to record your Department's table of organization for next year, including a distribution of salaries among the sources financing them. Form 3 is in a format similar to Forms 1 and 2, thus facilitating comparisons. Since it requests information relating to Departmental plans for the 1971-72 academic year, most of the information must be filled in by the Departments.

Several features of the form should be mentioned at the outset:

1. On each of the rank sheets (except for the sheet provided for purchases from other Departments), Columns A, B, C, D, E, and F have been filled in; these entries are reproductions of the corresponding entries on Form 2.

2. A separate (blank) rank sheet has been provided for recording expected purchases from other Departments.

3. Since it is too early to know what funds may be available for salary increases, the total salary figures used on Form 3 are the same as those shown for 1970-71 on Form 2.

4. Column O ("Comments") contains a new element of information (not shown on Forms 1 and 2), namely, the termination year of each appointment. In the case of faculty on continuing appointment, the termination year shown is the expected year of retirement under current University policies.

5. In the case of appointments terminating in 1971, the words "terminating 1971" have been pre-printed on the form.

6. Space has been provided on each of the rank sheets (except for purchases from other Departments) for "requested additions to this Rank."

Filling out the forms

In the process of filling out Form 3, you will be entering each appointment, reappointment, promotion, etc. on one line of the appropriate rank sheet. Each time such a line entry is made, certain information must be recorded in the various columns of the form. (The meaning of each column was given in the description of Form 1 above.) In general, the following information should be filled in for each individual:

Column A: Payroll number. Fill in when such a number now exists, that is when it is either printed on the form already or shown in the most recent version of the 1970-71 budget transmitted to you along with the budget forms. Leave blank in the case of proposed appointments from outside Princeton in 1971-72.

Column B: Name. Fill in if known.

Columns C, D, and E: Period of appointment, percentage of duty time, and percentage of a full-time equivalent:

--When an appointment is expected to be full-time and for the full academic year (i.e. when the full-time equivalent is 100%), no entry is needed.

--When an appointment is for one semester only, or when an appointment is not for full-time duty, fill in all three columns (C, D, and E), referring to the explanations of these columns in the description of Form 1 above. In case it has not yet been determined whether a one-semester purchase will be for the fall (F) or spring (S), please enter the most likely designation in Column C.

--When a purchase of time is to be made from another department, leave columns C and D blank, but always fill in column E to indicate the percentage of a full-time equivalent being purchased.

Column F: Total academic year salary. Fill in the individual's current year (1970-71) salary in all cases, even if a promotion is being proposed. In the case of proposed appointments from outside Princeton in 1971-72, enter your best evaluation of the actual salary to be offered.

Columns G through N: In these columns, you should distribute the total academic year salary (shown in Column F) among the various sources that finance it. A few considerations bear mentioning:

--When a portion of an individual's salary is paid by a sponsored project of another Department, the entries relating to that portion should be made in Columns K and L ("purchased by other Departments"), not in Column J ("sponsored projects").

--Columns K and L ("purchased by other Departments") will be the subject of interdepartmental negotiation. Note that both the amount (Column K) to be paid by the other Department for the services of a member of your Department, and the account number (Column L) of the other Department, from which the payment is made, must be determined and entered.

Column O: Comments. Enter the termination year of the appointment, if the individual is not already on continuing appointment or being proposed for continuing appointment. In addition, in each case in which you cross off an individual where he now appears pre-printed on the form (the circumstances in which this action is appropriate are discussed in detail below), enter the reason for crossing him off (e.g. reappointment, promotion, resignation, retirement, etc.) in Column O on the line where he originally appeared.

Column P: Field of specialization. Please enter in each case. Fields of specialization for present Faculty members have been pre-printed, where known. They should be checked, edited, and entries should be made where none appear now. Fields of specialization for proposed additions to your Department's Faculty should also be entered. Abbreviations should be used, if necessary, so as to limit the description to 14 characters and spaces.

The following steps are necessary to fill out the forms. They need not, of course, be followed in the order mentioned, if you prefer otherwise, but they are suggested as one feasible approach:

First Step: Review the appointments which terminate in 1971:

--If it is desired to reappoint an individual at the same rank, cross him off the form where he now appears, and enter him on the lower portion of the same form headed "requested additions to this Rank."

--If it is desired to reappoint an individual at a higher Rank, cross him off the form where he now appears, and enter him in the "requested additions to this Rank" section of the appropriate higher rank sheet.

--If the termination of an individual's appointment will stand, take no action.

Second Step: Review the remaining appointments pre-printed on the forms:

--If an individual will be continuing at the same Rank, take no action, unless his field of specialization in Column P needs editing or is missing.

--If it is desired to propose a promotion for an individual, cross him off the form where he now appears, and enter him in the "requested additions to this Rank" section of the appropriate higher rank sheet.

--If an individual is known to be leaving (for reasons of retirement or otherwise), cross him off the form where he now appears and enter the reason in column O.

Third Step: Check the forms to make sure that the following cases have not been overlooked:

--Vacancies appearing on Form 2 for the current year will not have been carried over to Form 3. If a vacancy is expected to be filled during 1970-71, and the individual will continue in 1971-72, you will need to add this position to Form 3.

--You may be planning to use, in your Department's teaching program in 1971-72, a member of one of the research or technical Ranks, or of the administrative staff, of your Department who was not teaching in 1970-71. He, too, must be added to Form 3.

In all such cases, each column should be filled in for these positions in the "requested additions to this Rank" section of the appropriate rank sheet. (Information concerning payroll numbers, etc. for the research and other Ranks not already appearing on the forms may be found in the most recent version of the 1970-71 budget, provided to you with the budget forms.) Remember that Column F, in the case of members of one of the research or technical ranks, or of the administrative staff, should contain only the portion of each individual's salary which is attributable to the performance of teaching duties.

Fourth Step: Record the teaching services which you propose to purchase from other Departments. Please consult with the chairman of each individual's home Department to be sure that the concomitant interdepartmental charges are mutually agreeable, and to obtain the information required to complete the form. In order to budget for such services, a blank Form 3 has been provided. The columns should all be filled out as described above, with the following modifications:

--Column E. Interdepartmental negotiations should establish the percentage of a full-time equivalent being purchased.

--Column F - enter only the amount of the individual's academic year salary for which your Department will be responsible.

--Column O - enter the name of the Department furnishing the Faculty or other staff member.

Fifth Step: Record the needs of the Department which you propose to meet by appointments from outside Princeton. Entries for each such appointment should be made in the "requested additions to this Rank" section of the appropriate rank sheet. In Column B, enter the name of the individual if known; otherwise, enter a Roman numeral (I, II, etc.).

In case the salary of a proposed appointee from outside Princeton is to be paid by more than one Department, the Department Chairmen concerned should agree on (1) which Academic Department will be regarded as home base for the new appointee, (2) the amount and source of salary to be contributed by each Department, and (3) other matters (full time equivalents, account number, etc.) customarily at issue in such cases. The home Department will enter an appointment on its Form 3 for the appropriate Rank under "requested additions to this Rank" in the usual fashion and will show the salary portion to be charged to the other Department in Column K. The other Department will show the appointee on its "Purchases from other Departments" rank sheet in the usual manner. If the name of the individual is not known, both Departments should use the same Roman numeral in Column B.

Upon completion of these five steps, Form 3 will represent a rough table of organization of the Department's teaching staff for 1971-72 (with the exception of graduate students).

A few final words about Form 3:

1. It was stated as a general rule above that all salaries on Form 3 should exactly equal the corresponding salaries for those same individuals shown on Form 2 for the current year. (It is these salaries that were carried over and pre-printed on Form 3.)

There is one exception to this general rule. When an individual is employed either less than full-time, or for less than a full academic year, for either 1970-71 or 1971-72, the salaries for the two years should not agree if the full-time equivalent in one year is different from the full-time equivalent in the other year. A proportional adjustment to the dollar figures should be made in such cases.

2. It is particularly important that Departments (Academic or other) involved in a transfer of funds for services rendered by Faculty members and other staff outside of their home Departments agree on the individuals, the amounts, and the accounts involved. Be sure to cross-check all such salary distributions with the Chairmen of the Departments involved.

3. In a similar manner, all salary distributions made to sponsored research accounts should be checked with the principal investigator to determine that there is a reasonable likelihood that the necessary funds will be available.

4. There is no need to total Form 3. The computer will take care of this.

Form No. 5

Form 5 presents -- for 1969-70 on one sheet and for 1970-71 on another sheet -- a summary of the material recorded on Forms 1 and 2, together with information concerning graduate teaching assistants. A Form 5 will also be prepared later and furnished to you for 1971-72, based on data you are providing on Form 3.

There is no need for you to make any entries on Form 5, as the form is produced entirely by machine. However, a brief description of the content of the various columns and lines is provided here for information:

Columns A through F summarize the entries in Columns G through K, M, and N of Forms 1 and 2, which relate to the distribution of salaries among the various sources which finance those salaries. In addition, the same kind of information concerning graduate teaching assistants has been added to these columns.

Columns G and H summarize the total academic year salaries and full-time equivalents detailed in Columns F and E of Forms 1 and 2, together with the same information for graduate teaching assistants.

Column J presents the result of dividing the salary shown in Column G by the number of full-time equivalents shown in Column H to obtain the average salary paid to a full-time equivalent in each Rank, including graduate teaching assistants.

Columns K, L, and M provide the same kinds of information as Columns G, H, and J, except that the salary and full-time equivalent figures relate to the Department's teaching budget (total salaries less those charged to other Departments and sponsored projects and those absorbed by sources outside the University while a man is on leave).

Column N presents a measure of effective available manpower, that is the full-time equivalents relating to the Department's teaching budget, excluding all leaves. (The full-time equivalents shown here are associated with the salary figures shown in Columns A and B.) Column N differs from Column L, in that Column L includes leaves of absence paid by Princeton, while Column N does not.

Lines 1 through 5 summarize the corresponding Rank sheets of Forms 1 and 2.

Line 6 presents salary and full-time equivalent data for graduate student teaching assistants who were paid salaries by your Department in 1969-70, and who are included in your Department's budget for 1970-71. For 1970-71, the salary amounts shown include tuition payments made on behalf of these assistants in instruction.

Line 7 totals all of the salaries listed on the first six lines of the form.

Line 8 expresses each salary total shown on line 7 as a percentage of the total of all such salaries shown on line 7 in Column G. Thus, the percentage of these salaries which is paid from general funds, restricted funds, sponsored projects, etc. is revealed.

Line 9 provides salary totals for Faculty of your Department (lines 1 through 4 above).

Line 10 provides salary totals for all Faculty devoted to the Department's program, whether home-based in your Department or purchased from other Departments.

Line 11 provides salary totals for all teaching appointments in your Department -- Faculty and graduate teaching assistants.

Form No. 6

General

Form 6 presents for your information a survey of the teaching activity of the Department in terms of the numbers of students enrolled, courses offered, and degrees granted, as well as the distribution of teaching hours.

Data have been provided on the form for the academic years 1965-66 through 1969-70. In addition, estimates (including the estimated impact of the entrance of additional women undergraduates) have been entered for the current academic year, 1970-71, and for 1971-72. Data for 1970-71 are our best estimates, based on preliminary information. Data for 1971-72 are, of course, rough projections. We recognize that information for both of these years cannot be precise at this stage, but hope that even rough estimates will prove useful for planning purposes.

You need make no entries on Form 6 unless you disagree with any of the estimates shown. Any disagreement may be indicated by marking up the form to show your own estimates, and sending it back to us along with the other completed budget forms.

Detailed Explanation of the Form

Line 1 lists the number of graduate courses offered by the Department during the academic year.

Line 2 presents the combined enrollment of all the courses counted on line 1. These are registered enrollments and do not include auditors.

Line 3 is a tabulation of the Faculty Course Contact Hours associated with these courses for Faculty of your own Department. A section of a course meeting with one Faculty member for one hour per week during one semester generates one Faculty Course Contact Hour.

Line 4 records the Faculty Course Contact Hours associated with these same courses which have been contributed by Faculty of other Departments.

Line 5 is the sum of lines 3 and 4. It represents the total Faculty Course Contact Hours for the graduate courses of your Department.

Line 6 represents the Faculty Course Contact Hours contributed by Faculty of your Department to other Departments, for the graduate courses of those other Departments.

Line 7 gives the number of 1st and 2nd year graduate students registered at the beginning of the fall semester of each academic year.

Line 8 lists all the other registered graduate students recorded at this same time.

Line 9 is the sum of lines 7 and 8. The figures in lines 7 through 9 are for degree candidates only (except for Woodrow Wilson School, where visiting students are included).

Line 10 tabulates the number of Ph.D. degrees granted by the Department each year.

Line 11 tabulates the number of Professional Masters degrees granted each year.

Line 12 gives the number of undergraduate courses bearing identifying numbers below 300 offered by the Department during both semesters of the given academic year.

Line 13 is the corresponding number of undergraduate courses bearing identifying numbers of 300 and above.

Line 14 gives the total number of undergraduate courses offered by the Department during the academic year (lines 12 and 13).

Line 15 presents the total enrollment recorded for courses listed on line 12.

Line 16 presents the total enrollments recorded for courses listed on line 13.

Line 17 is the sum of lines 15 and 16 (total enrollments recorded for courses listed on line 14).

Line 18 is a tabulation of the Faculty Course Contact Hours involved in undergraduate instruction for Faculty of your own Department. It is the undergraduate equivalent of the quantity presented on line 3.

Line 19 is a tabulation of the Faculty Course Contact Hours involved in undergraduate instruction which have been contributed by Faculty of other Departments.

Line 20 is the sum of lines 18 and 19. It represents the total Faculty Course Contact Hours for the undergraduate courses of your Department, and is analogous to line 5 above for graduate courses.

Line 21 records the Faculty Course Contact Hours contributed by Faculty of your Department to other Departments, for the undergraduate courses of those other Departments.

Lines 22, 23, and 24 list the numbers of Sophomore Concentrators, Junior Majors, and Senior Majors of your Department, respectively, recorded as of the beginning of the fall term of the given academic year.

Line 25 totals your departmental students (lines 22, 23, and 24).

Line 26 totals the Faculty Course Contact Hours contributed by Faculty of your Department to the formal instructional program of the University (lines 3, 6, 18, and 21).

Line 27 totals the Faculty Course Contact Hours devoted to your Department's program, whether contributed by your own Faculty or by Faculty of other Departments (lines 5 and 20).

Instructions for Form No. 10

NOTE: Form 10 includes a sizable array of information. It may be well to note at the outset that quite a number of the lines on the form require no entries by Departments. (These are specifically noted below.) In addition, there are some features of the form which do not apply to all Departments. For example, Departments which do not conduct sponsored research need not be concerned with those portions of these instructions which cover such sponsored projects.

General

Some general aspects of Form 10 will be discussed before taking up the line-by-line description and the steps necessary to complete the form.

1. Purpose. Form 10 provides a mechanism for making -- in summary fashion -- 1971-72 budget requests of the Department for all categories of expenditures except:

--Faculty salaries (including salaries of certain other staff members who teach) for the academic year. These requests are made on Form 3.

--Support of Departmental Graduate Students. This topic will be the subject of discussions between Departments and the Dean of the Graduate School.

--Capital budget requests (defined as (1) requests for equipment having a useful life longer than three years and costing more than $100 for any one item, and (2) requests for additional space or renovation of existing space). These requests are made on Forms 14 and 15.

Form10 also serves the purpose of summarizing all categories of expenditures for each Department (except graduate fellowships and capital items) for three fiscal years: the just completed fiscal year (1969-70), the current fiscal year (1970-71), and the next fiscal year (1971-72).

2. Treatment of sponsored projects. Information on sponsored projects is included in the interests of presenting a total budget for your Department. While the sponsored projects data for the past year (1969-70) represent actual year-end results, the derivation of the data shown on the form for the current year (1970-71) requires some explanation.

The totals for salaries, benefits, and operating expenses attributable to sponsored projects have been estimated by the Office of Research and Project Administration. The more detailed data shown on the lines of Form 10, on the other hand, have been taken from the Controller's records, in some cases. Use of these dual inputs gives rise to the following problem, which involves only the data on salaries:

The salary figures on individual lines of the form represent, in most cases, specific personnel now on the rolls. However, in the case of three lines of the form (line 8C, lab and shop bi-weekly; line 8D, miscellaneous staff and special pay; and line 9, student wages), the Controller's budget does not include the specific personnel; in these cases, an estimate of salaries to be paid during all of 1970-71 has been included on the form.

In the case of some departments, the estimates of totals make allowance for additions to staff during the year. These allowances are shown on line 13, "other salaries, sponsored projects."

3. Teaching by other than Faculty. Portions of the salaries of certain members of the Professional Research Staff, Professional Technical Staff, and administrative staff -- representing the part of their time which is attributable to the performance of teaching duties -- were shown on the Lecturer rank sheets of Forms 1 and 2. To avoid double counting, any salaries for these Ranks which appear on Forms 1 and 2 are not included in the amounts shown for the same Ranks on Form 10 (lines 4, 5, and 8A). In filling out Form 10 for 1971-72, the same principle applies. If you have listed a member of one of these Ranks on Form 3, you should not include duplicate salaries on lines 4, 5, or 8A of Form 10.

4. If any of the data already printed on the form appear to be incorrect, the incorrect figures should be crossed out with a single line (so that the deleted material will remain legible) and the correct figures entered. An explanation for the change should be written on the face of the form or appended.

5. No change in salary rates assumed for 1971-72. Since the availability of funds for promotions and salary increases cannot be determined at this time, salary figures projected for 1971-72 should reflect the same salary rates existing in 1970-71.

6. Unfilled vacancies have been eliminated from the 1969-70 data; those columns thus represent actual year-end results. However, vacancies now included in the budget for 1970-71 have not been eliminated from the figures shown.

Filling Out the Form

Form 10 is divided into three sections (groups of four columns); each section presents data for one of the three fiscal years. Within each fiscal year section, there are four columns:

--Column A (and E and J) - charges to your Department's general (unrestricted) accounts (1000 accounts).

--Column B (and F and K) - charges to special restricted accounts, such as those arising from Departmental grants or endowment (2000 accounts), but excluding sponsored projects.

--Column C (and G and L) - charges to Departmental accounts arising from outside sponsorship of projects -- both government (6000 accounts) and nongovernment (4000 accounts).

--Column D (and H and M) - the sum of the three preceding columns.

Data have been pre-printed on the form for 1969-70 and for 1970-71. Except as otherwise specifically noted below, you are asked to fill in your requests for 1971-72 on each line in all three columns (J, K, and L), as appropriate. You need not fill in the "total" column (M), nor any of the lines representing totals and sub-totals, as the computer will calculate these amounts after you submit your proposed budget.

A line-by-line description of Form 10 follows:

Salaries and Benefits

Line 1: Faculty-academic year (no entries for Academic Departments). This line represents all charges to your Department's accounts for academic year salaries of members of the Faculty.

For Academic Departments (those with Department numbers less than 300) it contains, as well, the academic year charges for (non-faculty) staff who appear on Forms 1, 2, and 3. Figures shown on this line are equal to those shown on line 10 of Form 5. Academic Departments should make no entries on this line for 1971-72 as the computer will calculate the amounts based on the information supplied on Form 3.

Other Departments (those with Department numbers 300 and up) must make entries on line 1 where appropriate. In all such cases, the accompanying memorandum should list the names, salaries, and home departments of the individuals whose salaries comprise each entry on line 1.

Line 2: Teaching Assistants. No entries appear on line 2; this category is broken down on the following two lines.

Line 2A: Stipends (of teaching assistants) (no entries). For Academic Departments only, this line shows salaries paid during the academic year to graduate student teaching assistants utilized in the Department's program of instruction.

Line 2B: Tuition (of teaching assistants) (no entries). Beginning in 1970-71 (when the method of compensating graduate students was changed), this line shows -- for Academic Departments only -- tuition payments made on behalf of assistants in instruction.

The sum of the figures on lines 2A and 2B is the same as the figures shown on line 6 of Form 5. No entries need be made on either of these lines, as the information will be filled in centrally based on your request to the Dean of the Faculty contained in the memorandum accompanying your budget submission.

Line 3: Faculty-summer. This line represents summer payments charged to your Department for Faculty members of any Department.

Lines 4 & 5: Professional Research Staff and Professional Technical Staff - represent salaries of such staff members of your Department (other than those listed on Forms 1 through 3) which are paid from accounts of your Department (i.e. both payments to other Departments for such personnel, and payments by other Departments for the services of your personnel are excluded.)

Line 6: Assistants in Research - academic year. No entries appear on line 6; this category is broken down on the following two lines.

Line 6A: Stipends (of Assistants in Research - academic year) (no entries for Academic Departments). This line represents payments for the services of graduate students serving as Assistants in Research during the academic year.

Line 6B: Tuition (of Assistants in Research - academic year) (no entries for Academic Departments). Beginning in 1970-71 (when the method of compensating graduate students was changed), this line shows tuition payments made on behalf of assistants in research. In 1970-71, the $2,100 per student charged to sponsored projects (or to Departmental restricted funds) is reflected in column G (or F), while the remainder of the tuition payment, charged to general funds ($500 per student), is reflected in column E.

Academic Departments need not fill in lines 6A and 6B; they will be filled in centrally based on the data you are supplying to the Dean of the Graduate School. Other Departments, projects, and programs planning to make use of and pay for graduate student Assistants in Research from the Academic Departments during the academic year 1971-72 should make an entry relating to these lines. However, since the stipend and tuition rates are not known at this time, the entry should be placed in a footnote, and should consist of the number of students, together with the home Academic Department of those students and the source of funds, for example, "5 students from Astrophysical Sciences charged to Sponsored Projects."

Line 7: Assistants in Research - summer (no entries for Academic Departments). This line represents payments for the services of graduate students serving as Assistants in Research during the summer. Academic Departments need not fill in this line; it will be filled in centrally based on the data you are supplying to the Dean of the Graduate School. Other Departments planning to make use of Assistants in Research during the summer of 1971 should fill in this line.

Line 8: Supporting Staff. No entries appear on line 8; this category is broken down on the following four lines.

Line 8A: Administrative Staff, defined as Administrative Staff and Laboratory and Shop Staff members paid on a monthly basis. The amounts represent payments from accounts of your Department to staff members of your Department.

Line 8B: Office Staff, the so-called "bi-weekly B" payroll and the Library non-professional staff. The amounts represent payments from accounts of your Department to staff members of your Department.

Line 8C: Lab and Shop Bi-weekly, the so-called "Bi-weekly A" payroll. The amounts represent payments from accounts of your Department to staff members of your Department.

Line 8D: Miscellaneous Staff and Special Pay, consisting mainly of special payroll charges (yellow invoices).

Line 8E: Total Supporting Staff, the sum of lines 8A through 8D above.

Line 9: Student wages. This line includes all wages and salaries paid to undergraduates, and incidental wages paid to graduate students. Amounts paid to graduate students for their services as Teaching Assistants and Assistants in Research were covered above on lines 2A, 2B, 6A, 6B, and 7.

Line 10: This line represents the total of the first nine lines.

Line 11: Purchases from other Departments, reflects payments to other Departments from your accounts for the services of all categories of personnel except (a) Faculty, (b) graduate students, and (c) in the case of Academic Departments, those members of the professional research and technical ranks, and administrative staff, who teach in your Department (and who were listed on Forms 1, 2, and 3). (In the case of (a) and (c) above, payments are reflected on Forms 1, 2, and 3, and on lines 1 and 3 of Form 10. Payments to graduate students of other Departments are included on lines 2A, 2B, 6A, 6B, and 7 of Form 10.)

Line 12: Charges to other Departments, records all salary payments made by other Departments for personnel based in your Department, with the exception of (a) Faculty, and (b) graduate students. (In the case of faculty, charges to other Departments appear on Forms 1, 2, and 3 for the academic year. Payments by other Departments to your Faculty members during the summer will not generally show anywhere on the forms for your Department; neither will payments by other Departments to your graduate students. Since all of the charges on line 12 are paid by other Departments, line 12 is not added into the totals on this form for your Department.

An illustrative example may serve to clarify the usefulness of line 12. Suppose that in 1970-71, a portion of the salary (say $5,000) of a member of your Professional Research Staff is charged out to another Department. Line 4 (Professional Research Staff) of this form would therefore not include this $5,000. The $5,000 would be included however, on line 12 for 1970-71. Now suppose that for 1971-72, all of the salary of this staff member will be paid from your Department's funds, and suppose, further, that you plan no expansion of the professional research ranks in 1971-72. Under these circumstances, the explicit recognition of "charges out" on the form serves as a reminder that the 1971-72 estimate for Professional Research Staff will not be a repetition of the 1970-71 figure on line 4, but rather a figure $5,000 higher. At the same time, the estimate of charges to other Departments for 1971-72 on line 12 would be $5,000 lower than in 1970-71, reflecting the fact that all of this particular man's salary will be paid from your Department's funds next year.

Line 13: Other salaries, sponsored projects, applies only to the current fiscal year, 1970-71. As explained under item 2 of the general discussion above, this line may be regarded as an estimate of additions to staff to be charged to sponsored projects this year.

No entries need be made on this line, unless the Department disagrees with the estimate of total salaries shown in that column.

Line 14: Total salaries, is the sum of lines 10, 11, and 13.

Line 15: Personnel benefits (no entries). This line is computed centrally based on a percentage of salaries.

Line 16: Total salaries and benefits, is the sum of lines 14 and 15.

Operating Expenses

Line 17: Computer charges, should contain your best estimate of your Department's needs for computer usage for 1971-72. The estimate should presume that hourly rates for computer usage will be the same next year as in 1970-71.

Line 18: Other operating expenses, reflects all operating expenses other than computer charges. For 1971-72, you should project your best estimate of your needs.

Line 19: Total operating expenses, is the sum of lines 17 and 18.

Line 20: Total salaries and operating expenses, is the sum of lines 16 and 19.

APPENDIX B

FACULTY MANNING FORMS

Forms 1, 2, and 3A (Form 3A was reproduced earlier as Table 5)[1] were designed to show, for each department, all of the individual faculty members on the budget of the department, with information concerning each individual's:

1. Rank.

2. Payroll number (Col. A) or a dummy number with prefix N if the entry is a request for a new person.

3. Name (Col. B, blanked out here to protect confidentiality).

4. Appointment period (Col. C), with "AY" standing for Academic Year, "F" for fall term only, and "S" for spring term only.

5. Percent of full-time duty during appointment period (Col. D).

6. Percent of full-time duty during the year (Col. E), obtained by multiplying Col. D by 1 if Col. C is AY and by 1/2 otherwise, with the totals for this column thus showing the number of full-time equivalent (FTE) faculty by rank.

7. Total salary for the academic year (Col. F).

8. Distribution of the salary among sources of funds, with separate entries for amounts charged to General Funds (Col. G), Restricted Funds (including certain endowed chairs) (Col. H), Sponsored Research (Col. J), Purchases by other Departments (Col. K showing amount and Col. L showing account number), Leave of Absence Paid by Princeton (Col. M), and Leave of Absence Without Pay by Princeton (Col. N).

9. The nature of the appointment -- e.g., "contin" means continuing tenure, "new" means a person to be recruited, "promot" means that the department is recommending that the individual be promoted to the rank in question,

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[1] All tables referred to in this Appendix are in Section I.

"reappt" means that the department is recommending that, say, an Assistant Professor who is completing an initial three-year appointment be reappointed to a second three-year term. These notations appear under the "Remarks" column along with the year of retirement or termination of appointment (blanked out here to protect confidentiality) and other miscellaneous information.

10. Field of Specialization, such as "Int. Trade," "Theory," etc. (blanked out here to protect confidentiality) is shown in the last column.

Forms 5A, 5B, and 5D for the Economics Department were also reproduced earlier as Tables 6, 7, and 8. These are summary forms for departments which provide a variety of totals built up from the data for individuals contained in Forms 1, 2, and 3A. Each of these forms contains data for a particular year, with Form 5D presenting the projected totals for FY 72 built up from the figures on Form 3A. The relationship between the two sets of forms can be seen by tracing the figures from Form 3A to Form 5D.

Rows 1-5 gather on one page the salary totals for each rank (with purchases from other departments treated as a "rank") and Row 6 shows salary charges for graduate teaching assistants so that the entire teaching staff will be included. Rows 7-11 then show a series of totals, so that the user of the form can work with whatever kind of figure is most appropriate to the purpose at hand.

If we now look across any one of this set of tables, we see that the first columns (A-F) summarize the distribution of salary charges among general funds, restricted funds, and so on, as recorded in more detail in columns G-N of Forms 1, 2, and 3A.

The next section of the table shows total salaries by rank (Col. G), the total number of FTE's by rank (Col. H), and the average salary per FTE at each rank (Col. J). The third main section of the table presents what we have called "teaching budget" information: the portion of the total salaries and FTE's charged to University funds spent by this department -- this includes general funds, restricted funds, and leaves of absence paid for by the University, and it excludes salaries charged to sponsored research, salaries charged to other departments, and leaves without pay.[1] Finally, the last column shows the number of FTE's actually available for teaching during the year in question (again, distributed by rank) by subtracting FTE's on leave from the total number of "teaching budget" FTE's shown previously.

One important feature of this method of organizing faculty salary data is that account is taken of all interdepartmental purchases and sales of faculty time as well as leaves of absence. Thus, it is possible to know rather precisely the amount of faculty time that is really available to the department and the cost of this time at each rank.

Just as Forms 5A, 5B, and 5D are built up from the data on Forms 1, 2, and 3A, so the data on Forms 5A, 5B, and 5D feed into the remaining sets of forms in the system. Data on projected salary costs for FY 72 for Economics from Form 5D, for example, are the source of the figure for academic year faculty salaries for FY 72 shown on line 1 of Form 10, which, as noted earlier, shows all projected direct expenditures by the Economics Department. Similarly, Forms 5A and 5B are the source of the academic year faculty salary figures for FY 70 and FY 71, which are also shown on Form 10.[2]

The data on FTE's from Forms 5A, 5B, and 5D are also used again. They are combined with data on enrollments, numbers of courses taught, and so on, from Form 6 to produce a variety of measures of teaching cost, which are in turn shown on Form 7. Forms 6 and 7, again for Economics, were reproduced earlier as Tables 9 and 10. Data from Forms 1, 2, and 3A are also the source of the summary salary and FTE figures on Form 8. Form 8 for Economics was reproduced earlier as Table 11.

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[1] The number of FTE's in the teaching budget (Col. L) is computed for each person by multiplying his or her FTE status (Col. E on Forms 1, 2, or 3A) by the ratio of the appropriate teaching budget salary to total salary. FTE figures for individuals are then summed for each rank.

[2] To be more precise about this linkage, the general funds figure on line 1 of Form 10 is obtained by summing line 10, Col. A and line 10, Col. E on the appropriate Form 5. The other figures are transferred directly without any addition.

In determining the manning needs of a department, one central factor is the demands the instructional program of the department places on faculty time. Form 6 was designed to show the demands of the instructional program in terms of numbers of courses to be taught at various levels, numbers of students involved in these courses, numbers of faculty course contact hours (FCC hours)[1/] to be spent in the courses, and numbers of departmental students to be supervised. Form 6 presents these numbers for each department for five previous years, along with estimates for the current year and projections for the budget year.

For each department, the form consists of three sections: graduate instruction, undergraduate instruction, and totals. The specific items of information concerning undergraduate and graduate instruction are indicated clearly on the form for Economics and require no special explanation. Perhaps it should be noted, however, that, as in the case of salary data, information is recorded concerning interdepartmental exchanges of faculty time (faculty course contact hours being the measure used here) so that an accurate impression can be obtained of the actual teaching hours devoted to each department's program of instruction. Finally, the "totals" section lists the total number of FCC hours, graduate and undergraduate, taught by departmental faculty whether or not they were all in the departmental program (line 26), and the total number of FCC hours taught for the departmental program whether or not they were all taught by the departmental faculty (line 27).

[1/] One faculty course contact hour is generated when one faculty member spends one hour per week for one semester in "contact" instruction in one course.

For the five previous years, the data source for all items, except for the degrees granted items in the graduate instruction section, is the Course and Faculty Schedule Information System (CAFSIS).[1] The graduate degrees granted data come from the records of the Dean of the Graduate School.

Estimates for the current year and the budget year are made in early September by the Provost's Office. On the undergraduate level, estimates of course enrollments are made separately for men and women students since the pattern of course elections differs somewhat by sex and since the ratio of women to men students is changing each year with the implementation of coeducation.

Current and budget year FCC hour estimates for the graduate program are based on the ratio of courses to hours for the previous year. On the undergraduate level, FCC hour estimates are based on a simulation whereby the estimated enrollments are put into courses and, within courses, into sections on the basis of the course organization information from the CAFSIS Departmental Course Summary of the previous year.

In making projections for the budget year, it is assumed that everything will stay the same as in the current year except where policy decisions have clear implications to the contrary. For example, since the new number of women undergraduates for the budget year has already been established, and is higher than the number for the current year, that factor is taken into account in estimating undergraduate selections.

When these forms are sent to the departments, the chairmen are asked to review the estimates and to suggest changes only if they have good reason to expect substantial changes in the popularity, organization, or staffing of their instructional programs not already reflected in the estimate. They are asked to explain these changes on an accompanying memorandum. When the forms are returned, the changes are reviewed by the Provost's Office with special attention given to the way in which changes proposed by departmental chairmen relate to divisional and University totals. When necessary, the departmental estimates are then revised to obtain an internally consistent set of numbers.[1]

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[1] Actually, since the CAFSIS system was not in operation until 1968-69, the data for years prior to that were put together from various records of the Registrar, the Dean of the Faculty, and the Dean of the Graduate School.

Form 7 was designed to relate the demands made on the departmental faculty in terms of enrollments, supervision, and administration to dollars and FTE's on the teaching budget. The data for Form 7 come from Form 5 (FTE's and dollars on the teaching budget for the past year, the current year, and the budget year), and from Form 6 (enrollments, departmental students, and FCC hours for four previous years plus the current year and the budget year).

Form 7 consists of six basic sections, each of which requires some explanation.

A. Number of FTE Students. This is not a simple count of students, but a reconstruction according to certain formulas of the number of FTE students.

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[1] The first year in which Form 6 was used, we sent out the forms to departments with all entries for the budget year left blank. Department chairmen were asked to fill in the blanks with their own estimates of enrollments, and so on. This approach had two defects: (1) different chairmen used different estimating procedures, which often were hard to discern or evaluate; (2) departments tended to be overoptimistic in projecting their own enrollments -- indeed, the total of the departmental estimates was about 10% higher than what we knew the University total would have to be. Some departmental role in making these projections is important, since the departments often have detailed information not available to the central administration; however, our experience suggests that it is best to accomplish this objective by giving chairmen the opportunity to revise projections presented to them.

During his four years at Princeton, a "typical" undergraduate averages roughly eight courses and one semester of independent work per year. Since one semester of independent work is regarded as the equivalent of a one semester course, a typical undergraduate takes an average of nine units per year. A department is credited with a unit enrollment for each course enrollment and two units for each departmental major, one for each semester of independent work during the junior and senior years. The department is then credited with one FTE undergraduate for each nine units of enrollment.

Each graduate student takes six units of work per year. Thus a department is credited with one enrollment for each one-sixth of a graduate student's time spent in the department. For example, a first year graduate student taking six courses and no independent work counts as one enrollment for each course he takes in the department. A student taking six courses and spending 25% of his time doing independent work counts as .75 enrollment for each course taken and 1.5 enrollments for his independent work. Finally, a student spending all his time doing independent work counts as six enrollments. The number of FTE graduate students in a department then is the number of enrollments divided by six.

The two calculated numbers (FTE undergraduate students (line 1) and FTE graduate students (line 2)) are then summed (line 3), and the percentage represented by undergraduates is calculated (line 4).

B. Student Supervision. This section contains a computation of the demand made on faculty time by the supervision of independent work, graduate and undergraduate (lines 5-9). The figures are calculated in FCC hour equivalents by a formula based upon two factors: (1) the numbers of students in categories thought to be relevant for the purpose (sophomores, juniors, seniors, first and second year graduate students, later-year graduate students); and (2) an estimate of the weighting that these numbers should receive based upon differing departmental patterns of study. For example, first and second year (i.e., pre-generals) graduate students in the Humanities and Social Sciences will in general make negligible demands on department faculty for the supervision of independent work, whereas students in laboratory sciences and departments offering programs leading to professional Master's degrees will require a fair amount.

C. Departmental Administration. Again the procedure has been to assign FCC hour equivalents for departmental administration on the basis of several factors. First of all, there are those hours of departmental administration attributable directly to the graduate or to the undergraduate program (lines 10 and 11). The scale used here is based on the numbers of enrolled graduate students and undergraduate majors, respectively. Hours for chairmanship duties are then calculated on the basis of the numbers of undergraduate and graduate students as well as the numbers of FCC hours in this department (line 12).

D. Program Calculations. This section -- the sum of faculty course contact hours from Form 6, and the faculty supervision hours and departmental administration hours from Form 7 -- gives the total number of hours attributable to the graduate and undergraduate programs of the department, whether they are contributed by departmental faculty or purchased from other departments.[1]

E. Teaching Hour Calculations. The first two lines are calculations of the number of FCC hours per FTE undergraduate and graduate student, respectively. Line 20 is the ratio of faculty time per graduate student to faculty time per undergraduate student in the department. This ratio measures the relative cost of a graduate student to the cost of an undergraduate student in faculty time. As can be seen, this ratio has been about 1.3 for Economics in recent years. Any further differences in salary costs per student between graduate and undergraduate students will be a function of the average cost per FCC hour that each entails. The last line (line 21) of this section is the calculation of one important component of average cost: teaching hours provided per FTE faculty on the teaching budget of the department (including faculty on leave).

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[1] Line 14 is the sum of line 5 on Form 6 and lines 5, 10, and that portion of the chairmanship hours (line 12) attributable to the graduate program. Line 15 is the sum of line 20 on Form 6, and lines 6, 11, and the remainder of the chairmanship hours (line 12).

F. Teaching Budget Calculations. The first line in this section (line 22) shows the dollar cost of the departmental program per teaching hour. The next three lines (lines 23-25) calculate for each department the dollar cost per FTE student. In arriving at a single figure for a department teaching both graduate students and undergraduates, it is necessary to adopt some method of weighting the relative numbers of students at the two levels. The first of these three lines (line 23) uses the ratio [faculty time per graduate student] over [faculty time per undergraduate student] in that department as the weighting factor; the second line (line 24) uses the corresponding ratio for the division to which the department belongs (Social Science, in the case of the Economics Department); and the third line (line 25) uses the University-wide ratio. Each of these ratios measures the relative cost of a graduate student to the cost of an undergraduate student in faculty time. Accordingly, the cost per student as adjusted by these factors is calculated by computing the total number of students taught, adjusted to full-time equivalent undergraduates. Thus, if a graduate student costs (in FCC hours) 1.5 times what an undergraduate costs, the total number of students taught, expressed in FTE undergraduates, is the number of undergraduates plus 1.5 times the number of graduate students.

Line 23, the departmental class-size (graduate) factor line, is not useful in comparing departments because the ratio of graduate students to undergraduates varies appreciably across departments; hence the need for the standardized calculations in the next two lines. Line 24, the divisional line, is not useful when comparing a department with other departments outside its own division (again, because of differences in the relative importance of graduate education), but it is a good index of its relative costs within its own division. Line 25, the University line, gives a better idea of the relative costs of departments when compared with one another all across the University but is less sensitive to differences within a division.

Summary. The final section of Form 7 provides a recapitulation of these various measures of cost per student for the past year, the current year, and the budget year, and provides an important basis for comparison by including the corresponding cost figures for the division in which the department is located and for the University as a whole.

As can be seen from the sample form for Economics, the faculty budget proposals for this department for FY 72 included in these calculations (based on the first requests of each department[1/]) showed a reduction in dollars per teaching hour from $1,165 in FY 71 to $1,124 for FY 72 (line 22). For the division and the University as a whole, on the other hand, the initially proposed figures for FY 72 were above the figures for FY 71. This was changed during the reviewing process, as is indicated below. The summary at the bottom of Form 7 for Economics also shows other kinds of information: (1) that Economics was considerably less expensive than the Social Science Division as a whole in FY 70 ($707 per student versus $892 per student, from line 24), that in FY 71 Economics was about equal to the divisional average ($1,012 versus $1,008), and that the initial proposals for FY 72, before review, suggested that Economics would again be less costly than the Social Sciences as a whole; (2) that the entire Social Science Division is appreciably below the cost figures for

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[1/] The version of Form 7 shown here for Economics was produced in early October, after the initial requests had been received from departments but before the review process had even begun. The Form 6 was produced September 15, and was input to Form 7. The other forms shown here (3A, 5A, 5B, 5D) were produced in mid-November after some reviewing had occurred. Of course, a number of versions of Form 5D, in particular, were run so that we could see the effects on the budget of tentative decisions regarding faculty manning.

the whole University -- in 1970-71, for example, the respective figures were $1,123 per student in the Social Sciences and $1,689 per student for the University (line 25 in the Summary).

Finally, Form 8 was designed to summarize differences between the past year (FY 70), the current year (FY 71), and the budget year (FY 72) in terms of salaries and FTE's in each department. Unlike the other faculty manning forms, Form 8 is not distributed to the academic departments, but is used primarily by the Dean of the Faculty and the Provost in reviewing the departmental requests and in preparing materials for presentation to the Priorities Committee.

Form 8 records detailed salary and FTE information by department. As may be seen from the sample Economics form, the first four lines show the differences between the current year and the budget year in terms of continuations (lines 1 and 2), terminations (line 3), and new appointments (line 4). The last three lines show the totals for the three years.

Going across each line, total salaries and the distribution of salary charges among general funds, restricted funds, purchases, and leaves are presented (Cols. A-F and H). The number of FTE's is recorded for leaves (Cols. G and J) and for total FTE's (Col. K). In addition, salary charges and FTE's on the teaching budget, as defined in Form 5, are recorded in columns L and M, and the number of FTE's on the effective teaching staff, again as in Form 5, is given in column N. Finally, the last column records the total number of people, as opposed to FTE's, for each line.

APPENDIX C

THE COURSE AND FACULTY SCHEDULE INFORMATION SYSTEM

The Course and Faculty Schedule Information System (CAFSIS), designed to serve as a base of information for planning and budgeting, is concerned with three principal areas of the University:

1. Instructional Courses -- the organization, enrollments, hours, and staffing of instructional courses.

2. Instructional Space and Scheduling -- the utilization of instructional space and the distribution of courses and students over the instructional time periods.

3. Faculty Time -- the allocation of faculty time to all non-research activities.

In designing CAFSIS, we were attempting to create a data file which would include, at the most detailed level, a record of faculty time, courses, and instructional space utilization which would be uniform across all academic departments and which could be easily related to the budget system. Since the file would be used for a variety of purposes, both within the central administration and on the departmental level, we sought to develop a system which made no prior assumptions about the ways in which the various detailed pieces of information would be aggregated. In this way, a user of the file could draw on the information in whatever way suited his needs without imposing those needs and subsequent assumptions on other users.

The system was first used in 1968-69 and has been fairly successful to date. Minor modifications have been made in order to ease the burden at the coding and keypunch stages.

The following paragraphs describe the system, including data collection and processing, the basic data file, and the uses of the file.

Data Collection

The data for the Course and Faculty Schedule Information System are collected and processed on a semester basis. Four weeks after the beginning of each semester, the Office of the Dean of the Faculty sends three forms to the chairmen of academic departments to collect information on the department's instructional courses, supervision of departmental students' independent work, and the non-instructional activities performed by a department's faculty members. The departments are asked to complete the forms in one month and return them to the Registrar. The three forms are described below:

Course Plan Form. The Course Plan Form is designed to provide detailed information about the organization, enrollment, scheduling, and staffing of the courses in each academic department. A separate form is filled out for each undergraduate and graduate course for which students receive academic credit. A reproduction of the form and accompanying instructions may be found in Table 1.

Supervision Form. The Supervision Form is designed to collect information about both the number of students majoring in a department and their assignment to faculty members who supervise their independent work. The term "independent work" refers to work performed for academic credit which is not associated with a specific organized course. The form and instructions are found in Table 2.

Non-Instructional Activities Form. The purpose of this form is to record the non-instructional activities performed by the home-based[1] departmental faculty and the proportion of time spent on these activities. With the exception of leaves of absence, the activities with which this form is concerned do not pertain to an individual's own scholarly activity and research. A copy of the form and instructions is found in Table 3.

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[1] Each faculty member is regarded as having a primary "home" in one of the academic departments. This primary association is reflected in the budget system as well.

Data Processing File and Reports

After the forms are filled out by the academic departments and returned to the Registrar's Office, they are edited and coded, and the resultant data are punched onto cards from which a basic data file is created. This file is used to produce three detailed reports: the Departmental Course Summary (DCS), the Departmental Faculty Schedule (DFS), and the Instructional Space Maps.

Departmental Course Summary. The DCS is designed to present an organized picture of each department's instructional course program for the semester. As may be seen from the sample DCS in Table 4a, the report consists of two sections for each academic department:

1. Courses -- A listing of all courses given by the department, including detailed information about each course with totals for the undergraduate, graduate, and departmental levels. This detailed information includes:
    a. Course enrollments -- The number of students enrolled in and auditing the course (Col. B).
    b. Course organization -- For each type of instruction, including non-contact involvement, the number of sections[1] and Faculty Course Contact hours[2] per week (Cols. C-N).
    c. FCC hour totals -- The total number of Faculty Course Contact hours per week for the course (Col. O).
2. Departmental Students -- The number of undergraduate students majoring in the department and the number of graduate students enrolled in the department, all by year of study (bottom of the page).

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[1] A section is defined as a specific group of students meeting for a given type of instruction.

[2] Faculty Course Contact hours are the number of hours one instructor spends per week for one semester in "contact" instruction in one course.

In addition to the departmental listings, summaries at the divisional (Humanities, Social Sciences, Natural Sciences, and Engineering) and University levels are presented (see Table 4b).

Departmental Faculty Schedule. The DFS is a report of each faculty member's non-research activities for the semester. It includes his participation in instructional courses, his supervision of students' independent work, and his non-instructional activities not related to research.

The DFS is presented in two parts. The first part (Table 5a) consists of a listing of all faculty (including student assistants who participate in the instructional program) home-based in a department, and divides their activities into two categories: (1) those performed for their home department, and (2) those performed for other departments. Within each of these two categories, three types of information are recorded for each person:

1. Courses -- The catalogue designation, types of instruction, and number of FCC hours for the courses in which he or she was involved (Cols. C-H).
2. Supervision -- The number of students, by year of study, whose independent work was supervised by the faculty member (Cols. J-U).
3. Other (Non-Instructional) Activities -- The type of activity performed and the percentage of full time devoted to it (Cols. V-W).

Totals of these three categories are presented for each department at the bottom of the listing. Two subtotals are also shown: one covering activities performed by the department's faculty for the department's program (line 1a), and the other showing activities they perform on behalf of programs of other departments (line 1b). These same totals are presented for the divisional and University levels (see Table 5b).

The second part of the DFS, illustrated in Table 6a, fills in the remainder of a department's program, namely the contributions made to that program by members of other departments. The headings are the same as those presented in the first part, and totals are given for two categories:

1. Activities performed for a department's program by members of other departments (line 2a).
2. The total activities performed for a department's program (the sum of line 1a from Part 1 and line 2a from Part 2 of the DFS).

Again, as Table 6b shows, totals are presented on the divisional and University levels.

Copies of the DCS and DFS are distributed to the Offices of the Provost, the Dean of the Faculty, the Registrar, the Dean of the Graduate School, the Dean of the College, and other interested offices. In addition, each academic department receives copies of its own departmental reports.

Instructional Space Maps. The Space Maps show the use of each instructional room by day of the week and time period. To produce the maps, records from the CAFSIS file are used in conjunction with records from the Space Inventory File.[1] A sample map for one room is illustrated in Table 7.

Each map presents general information about the room, including building and room identification, capacity in terms of number of student stations available, and the usage or number of hours per week the room is used for instructional purposes. The detailed information listed for each hour and day the room is used includes the following: the course, the type of instruction, the section number, and the section enrollment (first line); start and end time for that meeting and the number of times per week the section meets (second line); and the name(s) of the instructor(s) for the section (third line).

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[1] The Space Inventory File is a data file of all University space and contains detailed information about each room on campus, including the type of room, its size, capacity, and assignment.

Summary Tables

In addition to the three reports described above, certain summary tables are produced each semester. To date, the summary tables which have been regularly used are based on the information reported on the DCS and the DFS; i.e., FCC hours, supervision, and non-instructional activities. In the planning stage are summary tables concerning instructional space and scheduling. The regularly-produced summaries as well as the planned space summaries are described briefly below:

Rank Totals of FCC Hours. These summaries, illustrated in Table 8, show the distribution of Faculty Course Contact hours per week (1) by faculty rank (including student assistants) and (2) by type of instruction for the undergraduate program and the graduate program in each department. The table makes no distinction between FCC hours taught by faculty members home-based in the department and by faculty members from other departments; rather, it includes all FCC hours contributed to the instructional course program in each department. Totals are also presented on the divisional and University levels.

Rank Totals of Supervision. In the Rank Totals of Supervision summary (see Table 9), the number of departmental students supervised (by year of study) is presented for each faculty rank for each department. Again, the rank totals include all faculty members who are supervising students in the department, not just those faculty members home-based there. Summary tables on the divisional and University levels are also presented.

Rank Totals of Non-Instructional Activities. There are two sets of tables for each department which show rank totals of non-instructional activities. One includes all non-instructional activities performed by all faculty home-based in the department, regardless of whether the activities performed are for that department (see Table 10a). The other includes all non-instructional activities performed for the department, whether by home-based faculty or by others (see Table 10b).

The format of both tables is identical; each is divided into three sections: undergraduate, graduate, and general. Within each section, the numbers of full-time equivalent faculty members are shown for the following categories of activities: chairman, vice-chairman, departmental representative for undergraduate and graduate studies, administration of special academic programs, committees, leaves of absence, and other. Once again, summaries are available for the divisional and University levels.

Instructional Space Summaries. The space utilization summaries are still in the planning stage. They will show the use of various types of instructional space by department, time period, type of instruction, and size of instructional group.

Table 1

COURSE PLAN FORM INSTRUCTIONS

The purpose of this form is to provide detailed information about the organization, enrollments, scheduling, and staff of the courses in your department. A separate sheet is to be filled out for each undergraduate and graduate course. If it is necessary to use more than one sheet for a single course, please number each sheet consecutively. The Registrar's Office has supplied adhesive labels, affixed to the forms, designating the courses of which it has knowledge. Please fill out these forms and also include on the blank forms (without labels) any other courses given in your department in which students are formally enrolled; specifically, those which are listed and numbered in the catalogue as well as any formally arranged reading courses.

A filled out sample form is enclosed.

General Information -- Top of Form

Please fill in the general course information at the top of the sheet. The number of enrolled students should be that indicated by the revised course lists received from the Registrar's Office, including any necessary corrections. The number of auditors indicated should represent those who are formally registered as "auditors."

Detailed Information -- Body of Form

Enter the following information in the body of the form for each section of the course. In the sense used here a section is defined as a specific group of students meeting for a given form of instruction. As an example, a course organized so that the entire enrollment meets together twice a week for lectures and then is divided into four sub-groups, each of which meets once a week for a precept, would be considered as having one lecture section which meets twice a week and four precept sections each meeting once a week.

Column

A Type of Instruction. For type of instruction, please specify lecture, class, precept, seminar, conference, drill, or laboratory.

B Section Number. The sections are to be numbered sequentially within each type of instruction. For example, if a course has one lecture section and three precept sections, the lecture section is to be numbered 1 and the precept sections are to be numbered 1 to 3. (See Sample Form)

Table 1 (continued)

Course Plan Form Instructions

Column

C Number of Students Including Auditors. Enter the number of enrolled students and auditors in the section.

D Meeting Frequency Code. Please code the frequency of section meetings as follows:

1 - One meeting per week
2 - Two meetings per week
3 - Three meetings per week
4 - Four meetings per week
5 - Five meetings per week
6 - Six meetings per week
7 - One meeting every two weeks
8 - One meeting per month
9 - Other regularly scheduled frequencies (e.g., once every three weeks). When code 9 is used, please enter an explanation of the meeting frequency in the "Comment" section on the back of the form.
0 - No regular schedule (i.e., by special arrangement only). When code 0 is used please specify the average or estimated number of contact hours per week in the "Comment" section on the back of the form.

E - J Please fill out columns E through J for each meeting of each section. Be sure to designate afternoon or evening starting times as p.m.

K Please leave the column blank.

L Name(s) of Instructor(s). Enter the name(s) of all instructor(s) who have teaching contact with the section identified by the number in column B. Do not list faculty members who simply attend section meetings without active teaching participation (preceptors sitting in on course lectures, for example) or are associated in non-teaching functions such as grading, etc. When there is more than one instructor associated with the sections, list the names on the lines provided. Should explanation of the joint involvement be required (i.e., an individual gives a series of lectures on a special topic or takes responsibility for only a limited portion of the course) please enter the explanation in the "Comment" section on the back of the form.

M,N,O Please leave these columns blank.

P Number of Instructors Per Meeting. In some cases there will be fewer instructors teaching each meeting of the section than the number of names listed in column L as being associated with the section. For example, there may be two instructors associated with a section, but who teach the section on alternate weeks, so that only one of them instructs at each meeting. In such cases, enter the number (or average number) of instructors present at each meeting in

Table 1 (continued)

Course Plan Form Instructions

Column	
	column P. If the number of instructors per meeting is equal to the number of instructors listed in column L (as it almost always will be), it is not necessary to fill in column P.
	Other Faculty Involvement -- Back of Form
Q	List the names of any faculty members, research staff or graduate students assigned to any non-contact instructional activities (e.g., grading, laboratory preparation) associated with the course.
R,S,T	Please leave these columns blank.
U	Enter the activity to which they are assigned.
V	Enter an estimate of the hours per week the activity requires in hours equivalent to faculty course contact hours -- not in actual clock hours. To provide guidelines about how this equivalency is to be established is most difficult, but probably the instructor in charge of the course would be in the best position to make the estimate.

Table 1 (continued)

OFFICE OF THE DEAN OF THE FACULTY
COURSE PLAN

Sheet _____ of ______
for this course.

Department ________________ Catalogue Designation ________________ Course Title ________________

If this course meets regularly with another course,
please give its catalogue designation ________________ No. Enrolled Students ____________ No. Auditors ____________

				SCHEDULE						STAFFING				
TYPE OF INSTRUCTION	Section Number	No. of Students (Including Auditors)	Meeting Frequency Code	DAY OF THE WEEK	START TIME	Scheduled Length in Hours	BUILDING	ROOM	Please Leave Blank	NAME(S) OF INSTRUCTOR(S)	HOME DEPT.	RANK	(PLEASE LEAVE BLANK)	No. of Instructors Per Meeting
A	B	C	D	E	F	G	H	J	K	L	M	N	O	P

(over)

Table 1 (continued)

COURSE PLAN (cont.)

Department ______________________ Catalogue Designation ______________________

OTHER FACULTY INVOLVEMENT IN THIS COURSE					
NAME	HOME DEPT.	RANK	PLEASE LEAVE BLANK	ACTIVITY	F.C.C.E. HOURS
Q	R	S	T	U	V

COMMENTS		
TYPE OF INSTRUCTION	SECTION NO.	COMMENT
W	X	Y

Table 2

DEPARTMENTAL STUDENT SUPERVISION FORM INSTRUCTIONS

The Student Supervision form is designed to collect information about both the number of students in your department and their distribution among faculty members supervising their independent work. As used here, "independent work" refers to work such as senior theses and dissertation research and does not include work associated with a specific course. "Supervision" does not include the advising of students on their course of study.

NUMBER OF DEPARTMENTAL STUDENTS

In the top section please fill in the number of students in your department, as of mid-semester, in the categories listed across the form. Include all departmental students whether or not they are engaged in independent work. If several of these pages are required to supply the rest of the requested information, this section need be filled out on the first page only.

The 3 undergraduate student categories refer to departmental concentrators. The 5 graduate student categories are to include only those students enrolled as graduate students in your department.

The visiting fellow category includes post-doctoral students and visiting faculty who are at the University on a fellowship or on sabbatical leave. Do not include post-doctoral students who are employed by the University as research assistants or associates.

STAFFING OF SUPERVISION

In column A please list the names of all faculty members, whether or not they are in your department, who supervise the independent work of students in your department. If the faculty member is from another department, please list his home department in column B. Otherwise column B should be left blank.

Column	
C, D	Please leave these columns blank.
E-Q	In entering the numbers of departmental students supervised, please include only those students whose independent work or non-course work is being actively supervised as of mid-semester by the faculty member listed. A student should fulfill the following two conditions in order to be included:

Table 2 (continued)

Departmental Student Supervision Form Instructions

Column

1. His independent work or non-course work being supervised is a significant portion of his academic program, and

2. The supervision of his independent work or non-course work makes a significant demand on the time of the faculty member.

Columns E, F, and G refer to sophomore, junior and senior concentrators. Columns H - M refer to graduate students, by year of study, enrolled in your department. Columns N and O will include students who are listed in columns H - M when the supervision involved is directly related to their thesis work. Column N refers to students enrolled in programs leading to the MSE, and MPA, and the MFA in Architecture. Column O refers to students enrolled as candidates for the Ph. D. degree. Column P relates to those Ph. D. candidates no longer enrolled in the Graduate School, but whose doctoral work is still being actively supervised by a faculty member. The final column, Q, refers to all post-doctoral students, whether here on a fellowship or employed as research personnel, whose work is being actively supervised by a faculty member.

SPECIAL AND INTERDEPARTMENTAL PROGRAMS

Please include the supervision of those students in your department who are enrolled in the following special or inter-departmental programs, as we are collecting information only through the academic departments. Woodrow Wilson School concentrators will be collected through the Woodrow Wilson School.

Program in African Studies
Program in Afro-American Studies
Program in American Civilization
Program in Applied Mathematics
Basic Engineering Program
Program in Chinese and Japanese Art & Archaeology
Program in Classical Archaeology
Program in Classical Philosophy
Program in Engineering and Public Affairs
Program in European and Near Eastern History
European Civilization Program
Program in Geophysical Fluid Dynamics
Program in Latin American Studies
Program in Linguistics
Program in Political Philosophy
Polymer Materials Program
Program in Russian Studies
Program in Science in Human Affairs
Committee on Solid State and Materials Sciences
Water Resources Program

Table 2 (continued)

OFFICE OF THE DEAN OF THE FACULTY

DEPARTMENTAL STUDENT SUPERVISION

Page ______ of ______

Department ______________________________ Semester ______________ Year ________

NUMBER OF DEPARTMENTAL STUDENTS	UNDERGRADUATE STUDENTS			ENROLLED GRADUATE STUDENTS					VISITING FELLOWS
	SOPHOMORES	JUNIORS	SENIORS	1ST YEAR	2ND YEAR	3RD YEAR	4TH YEAR	+ 4TH YEAR	

STAFFING				NO. OF DEPARTMENTAL STUDENTS SUPERVISED											
				ENROLLED STUDENTS										NOT ENROLLED	
												THESIS SUPERVISION			
NAME	HOME DEPT.	RANK	PLEASE LEAVE BLANK	SOPHOMORES	JUNIORS	SENIORS	1ST YEAR GRADUATES	2ND YEAR GRADUATES	3RD YEAR GRADUATES	4TH YEAR GRADUATES	+4TH YEAR GRADUATES	PROFESSIONAL MASTERS	PhD's ENROLLED	PhD's NOT ENROLLED	POST DOCTORAL STUDENTS
A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q

Table 3

NON-INSTRUCTIONAL ACTIVITIES FORM INSTRUCTIONS

This form is designed to collect a detailed account of the non-instructional activities performed by members of your department.

The activities with which this form is concerned do not include an individual's own scholarly or research activities, activities charged to sponsored projects, activities directly related to a specific course, or leaves of absence.

The types of activities in which we are interested include departmental chairmen and vice-chairmen; departmental and graduate representatives; departmental, inter-departmental and University committees (regular or ad hoc); special program administration; and research administration on the departmental budget (not on project funds).

Please list only those activities whose performance requires a significant portion of an individual's time (5% or greater). Activities requiring less than 5% of full-time should not be included unless when combined with other activities of the same type (for example, time spent on various departmental committees), they sum to 5% or greater.

Column	
A	Please enter the names of all members of your department who are performing non-instructional activities, including research and professional staff members as well as graduate student assistants and teaching fellows if appropriate. Since it may take several lines to list all of the various activities of an individual, be sure to complete the entries in columns D, E, and G for each individual, before entering the next name.
B, C	Please leave these columns blank.
D	Enter a brief description of the non-instructional activities (one activity to a line) performed by the individual listed in column A.
E	If the activity described in column D is performed for a department or program other than the individual's home department, enter the name of that department or program. If the activity is performed for his home department, leave column E blank.
F	Please leave column F blank.
G	Please fill in the percentage of a full-time equivalent (FTE) for one semester -- not necessarily the percentage of the time of the individual -- required for each activity listed. If, for example, an individual

Table 3 (continued)

Non-Instructional Activities Form Instructions

Column

has a half-time appointment for the semester, and he spends 50% of his appointment time on a non-instructional activity, the entry in column G for that activity would be 25%.

Table 3 (continued)

OFFICE OF THE DEAN OF THE FACULTY
NON-INSTRUCTIONAL ACTIVITIES

Page ______ of ______

Department ______________________________

Semester ____________________ Year __________

NAME			ACTIVITIES			
NAME	RANK	PLEASE LEAVE BLANK	ACTIVITY	DEPT. IF OTHER THAN HOME DEPT.	PLEASE LEAVE BLANK	PERCENT OF FULL TIME REQUIRED FOR THIS ACTIVITY
A	B	C	D	E	F	G

Table 4a

701020 PRINCETON UNIVERSITY

DEPARTMENTAL COURSE SUMMARY SPRING 1969-70

DEPARTMENT 140-ECONOMICS

COURSES			TYPES OF INSTRUCTION																			*TOTAL
A	B		C		D		E		F		G		H		J		K		L	M	N	O
CATALOG DESIG	NUMBER STUDENTS		LECTURE		CLASS		PRECEPT		SEMINAR		CONFERENCE		DRILL		LAB		OTHER		NON-CONTACT INVOLVEMENT			HRS/ WEEK
																			PCCE HRS/WK			
	ENR	AUD	SECT	PCC HRS/ WEEK	SECT	PCC HRS/ WEEK	SECT	PCC HRS/ WEEK	SECT	PCC HRS/ WEEK	SECT	PCC HRS/ WEEK	SECT	PCC HRS/ WEEK	SECT	PCC HRS/ WEEK	SECT	PCC HRS/ WEEK	GRAD ING	LAB PREP	OTHER	
UNDERGRAD																						
ECO101	270	0	1	1	11	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23
ECO102	162	0	1	2	6	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
ECO302	43	0	1	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
ECO304	12	1	1	2	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3
ECO307	31	0	1	2	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	5
ECO308	123	0	1	2	0	0	10	10	0	0	0	0	0	0	0	0	0	0	0	0	0	12
ECO309	85	5	1	2	0	0	3	3	1	1	0	0	0	0	0	0	0	0	0	0	0	6
ECO312	54	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
ECO313	29	0	1	2	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	5
ECO314	22	3	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
--SUBTOTALS	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
10 COURSES	831	9	10	21	19	30	20	20	1	1	0	0	0	0	0	0	0	0	0	0	0	72
GRADUATE																						
ECO500S	7	3	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
ECO502	21	0	0	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
ECO504	20	1	0	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
ECO506	10	1	0	0	0	0	0	0	1	3	0	0	0	0	0	0	0	0	0	0	0	3
ECO513	5	0	0	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
ECO517	10	12	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
ECO518	5	8	0	0	0	0	0	0	1	5	0	0	0	0	0	0	0	0	0	0	0	5
ECO522	13	6	0	0	0	0	0	0	1	3	0	0	0	0	0	0	0	0	0	0	0	3
ECO523	6	7	0	0	0	0	0	0	1	3	0	0	0	0	0	0	0	0	0	0	0	3
ECO533A	24	4	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	2
ECO533B	22	6	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	2
ECO542	2	3	0	0	0	0	0	0	1	3	0	0	0	0	0	0	0	0	0	0	0	3
ECO552	4	1	0	0	0	0	0	0	1	3	0	0	0	0	0	0	0	0	0	0	0	3
ECO562	12	9	1	2	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	4
ECO564	7	4	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	2
ECO566	3	5	0	0	0	0	0	0	1	3	0	0	0	0	0	0	0	0	0	0	0	3
ECO572	14	1	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	2
ECO581	30	6	0	0	0	0	0	0	1	3	0	0	0	0	0	0	0	0	0	0	0	3
--SUBTOTALS	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
18 COURSES	215	77	2	4	4	11	0	0	14	36	0	0	0	0	0	0	0	0	0	0	0	51
TOTALS																						
28 COURSES	1046	86	12	25	23	41	20	20	15	37	0	0	0	0	0	0	0	0	0	0	0	123

NO. DEPARTMENTAL STUDENTS
SOPH- 0 JUN- 46 SEN- 50 1ST YR GRAD- 16 2ND YR GRAD- 14 3RD YR GRAD- 10 4TH YR GRAD- 13 +4TH YR GRAD- 1 VISIT. FELLOW- 2

Table 4b

701020

PRINCETON UNIVERSITY

DIVISIONAL COURSE SUMMARY

SPRING 1969-70

DIVISION 2-SOCIAL SCIENCES

COURSES			TYPES OF INSTRUCTION																			TOTAL
A	B		C		D		E		F		G		H		J		K		L	M	N	O
CATALOG DESIG	NUMBER STUDENTS		LECTURE		CLASS		PRECEPT		SEMINAR		CONFERENCE		DRILL		LAB		OTHER		NON-CONTACT INVOLVEMENT			HRS/ WEEK
																			FCCF HRS/WK			
	ENR	AUD	SECT	FCC HRS/ WEEK	SECT	FCC HRS/ WEEK	SECT	FCC HRS/ WEEK	SECT	FCC HRS/ WEEK	SECT	FCC HRS/ WEEK	SECT	FCC HRS/ WEEK	SECT	FCC HRS/ WEEK	SECT	FCC HRS/ WEEK	GRADING	LAB PREP	OTHER	
UNDERGRAD SUBTOTALS																						
72 COURSES	4307	204	51	102	65	93	152	154	57	98	3	6	0	0	0	0	8	8	6	0	0	467
GRADUATE SUBTOTALS																						
94 COURSES	875	243	3	6	4	11	0	0	77	220	3	3	0	0	0	0	13	12	0	0	0	252
TOTALS																						
166 COURSES	5182	447	54	108	69	104	152	154	134	318	6	9	0	0	0	0	21	20	6	0	0	719

NO. DIVISIONAL STUDENTS

SOPH- 10 JUN-368 SEN-352 1ST YR GRAD-139 2ND YR GRAD- 91 3RD YR GRAD- 55 4TH YR GRAD- 5 +4TH YR GRAD- 5 VISIT. FELLOW- 44

460

Table 5a

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DEPARTMENTAL FACULTY SCHEDULE-PART I SPRING 1969-70

DEPARTMENT 140-ECONOMICS

FACULTY		COURSES						SUPERVISION												OTHER	
DEPARTMENTAL FACULTY		UNDERGRADUATE			GRADUATE			NUMBER OF STUDENTS SUPERVISED												NON-INSTR ACTIVITIES	
A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
																	THESES				
PAYROLL NO.	NAME	CATALOG DESIG	TYPE INST	FCC HRS/ WEEK	CATALOG DESIG	TYPE INST	FCC HRS/ WEEK	SOP	JUN	SEN	1YR GRA	2YR GRA	3YR GRA	4YR GRA	+4Y GRA	POS DOC STU	PRO MAS	PHD ENR	PHD NOT ENR	ACTIVITY	0/0 FULL TIME
PROFESSORS																					
1	[redacted]																				
	OWN DEPARTMENT	ECO312	LECT	3.0			-	0	0	3	0	1	1	2	0	0	0	3	4	GRAD POLICY SUBCOM	5
	OTHER DEPARTMENTS			-			-													UNIV COMMS.	10
2	[redacted]																				
	OWN DEPARTMENT			-	ECO572	SEM	1.5	0	0	1	0	1	1	2	0	0	0	3	4	-	-
	OTHER DEPARTMENTS			-	SOC530	SEM	1.5	0	0	0	0	1	0	0	0	0	0	0	0	UNIV COMMS.	10
3	[redacted]																				
	OWN DEPARTMENT			-	ECO518	SEM	1.5	0	4	2	1	1	1	3	0	0	0	4	4	-	-
	OTHER DEPARTMENTS			-	ST 562	SEM	1.5													UNIV COMMS.	18
4	[redacted]																				
	OWN DEPARTMENT			-	ECO533A	SEM	1.5	0	0	3	1	0	0	1	0	0	0	1	7	CONCERN,S.AFR	12
					ECO533B	SEM	1.5														
	OTHER DEPARTMENTS			-	PA 533A	SEM	1.5	0	1	0	0	0	0	0	0	0	0	0	0	-	-
					PA 533B	SEM	1.5														
5	[redacted]																				
	OWN DEPARTMENT			-			-	0	0	0	0	0	0	0	1	0	0	0	1	LEAVE OF ABSENCE	100
6	[redacted]																				
	OWN DEPARTMENT			-	ECO502	CLAS	3.0	0	0	0	0	1	0	1	0	0	0	0	2	-	-
	OTHER DEPARTMENTS			-			-	0	0	0	0	2	1	0	0	0	0	3	0	UNIV COMMS	5
																				ADV COMM ON POLICY	30
																				KELLEY COMMITTEE	10
7	[redacted]																				
	OWN DEPARTMENT			-			-	0	0	0	0	0	1	0	0	0	0	0	3	LEAVE OF ABSENCE	100
8	[redacted]																				
	OWN DEPARTMENT	ECO308	LECT	2.0			-	0	0	1	0	2	2	1	0	0	0	0	4	-	-
	OTHER DEPARTMENTS			-			-													UNIV COMMS	75

* NON-CONTACT INVOLVEMENT

Names are blanked out to assure confidentiality

Table 5a (continued)

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PRINCETON UNIVERSITY

PAGE 2

DEPARTMENTAL FACULTY SCHEDULE-PART I

SPRING 1969-70

CONTINUED

DEPARTMENT 140-ECONOMICS

FACULTY		COURSES						SUPERVISION												OTHER	
DEPARTMENTAL FACULTY		UNDERGRADUATE			GRADUATE			NUMBER OF STUDENTS SUPERVISED												NON-INSTR ACTIVITIES	
A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
																	THESES				
PAYROLL NO.	NAME	CATALOG DESIG	TYPE INST	FCC HRS/ WEEK	CATALOG DESIG	TYPE INST	FCC HRS/ WEEK	SOP	JUN	SEN	1YR GRA	2YR GRA	3YR GRA	4YR GRA	+4Y GRA	POS DOC STU	PRO MAS	PHD ENR	PHD NOT ENR	ACTIVITY	O/O FULL TIME
PROFESSORS (CONT)																					
9	[redacted]																				
	OWN DEPARTMENT			-	ECO506	SEM	3.0	0	0	3	1	0	0	0	0	0	0	0	5	-	-
10	[redacted]																				
	OWN DEPARTMENT			-	ECO517 ECO518	LECT SEM	1.5 1.5	0	0	2	1	0	0	0	0	0	0	0	2	-	-
	OTHER DEPARTMENTS			-	ST 561 ST 562	LECT SEM	1.5 1.5													UNIV.COMMS.	15
11	[redacted]																				
	OWN DEPARTMENT			-			-	0	0	0	0	2	0	0	0	0	0	0	10	LEAVE OF ABSENCE	100
ASST. PROFS																					
12	[redacted]																				
	OWN DEPARTMENT	ECO101	CLAS	2.0			-	0	6	1	1	0	1	2	0	0	0	3	2	-	-
	OTHER DEPARTMENTS			-	PA 553	SEM	3.0	0	0	1	0	0	0	0	0	0	0	0	0	-	-
13	[redacted]																				
	OWN DEPARTMENT			-	ECO522	SEM	3.0	0	0	1	1	1	0	3	0	0	0	3	0	-	-
	OTHER DEPARTMENTS			-			-													UNIV.COMM.	5
14	[redacted]																				
	OWN DEPARTMENT	ECO302 ECO302	LECT CLAS	2.0 2.0	ECO581	SEM	1.5	0	6	1	0	2	0	0	0	0	0	0	1	-	-
	OTHER DEPARTMENTS			-	PA 556	SEM	3.0	0	0	1	0	0	0	0	0	0	0	0	0	-	-
15	[redacted]																				
	OWN DEPARTMENT	ECO102	CLAS	2.0	ECO513	CLAS	3.0	0	0	0	0	0	0	1	0	0	0	0	1	-	-

* NON-CONTACT INVOLVEMENT

Table 5a (continued)

DEPARTMENTAL FACULTY SCHEDULE-PART I SPRING 1969-70

CONTINUED DEPARTMENT 140-ECONOMICS

FACULTY		COURSES						SUPERVISION												OTHER	
DEPARTMENTAL FACULTY		UNDERGRADUATE			GRADUATE			NUMBER OF STUDENTS SUPERVISED												NON-INSTR ACTIVITIES	
A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
																	THESES				
PAYROLL NO.	NAME	CATALOG DESIG	TYPE INST	FCC HRS/ WEEK	CATALOG DESIG	TYPE INST	FCC HRS/ WEEK	SOP	JUN	SEN	1YR GRA	2YR GRA	3YR GRA	4YR GRA	+4Y GRA	POS DOC STU	PRO MAS	PHD ENR	PHD NOT ENR	ACTIVITY	O/O FULL TIME
ASST. PROFS (CONT)																					
16	[redacted]																				
	OWN DEPARTMENT	ECO313 ECO313	LECT PREC	2.0 3.0	ECO542	SEM	3.0	0	0	5	0	0	0	1	0	0	0	0	0	-	-
	OTHER DEPARTMENTS			-			-	0	0	1	0	0	0	0	0	0	0	0	0	-	-
17	[redacted]																				
	OWN DEPARTMENT	ECO308	PREC	4.0	ECO500S	CLAS	2.0	0	0	0	0	0	0	0	0	0	0	0	2	-	-
18	[redacted]																				
	OWN DEPARTMENT	ECO304 ECO304	LECT PREC	2.0 1.0			-	0	0	1	0	1	4	0	0	0	0	4	1	-	-
	OTHER DEPARTMENTS			-			-	0	0	1	0	0	0	0	0	0	0	0	0	-	-
19	[redacted]																				
	OWN DEPARTMENT			-	ECO504	CLAS	3.0	0	0	2	1	0	1	1	0	0	0	2	0	-	-
20	[redacted]																				
	OWN DEPARTMENT	ECO314	LECT	3.0			-	0	0	4	1	0	0	1	0	0	0	1	1	-	-
21	[redacted]																				
	OWN DEPARTMENT	ECO309 ECO309 ECO309	LECT PREC SEM	2.0 3.0 0.8			-	0	0	2	0	2	0	1	0	0	0	1	4	ADMISSIONS COMM	5
22	[redacted]																				
	OWN DEPARTMENT			-			-													LEAVE OF ABSENCE	100
23	[redacted]																				
	OWN DEPARTMENT						-	0	0	0	0	0	0	0	0	0	0	0	1	LEAVE OF ABSENCE	100

* NON-CONTACT INVOLVEMENT

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Table 5a (continued)

PRINCETON UNIVERSITY

PAGE 4

DEPARTMENTAL FACULTY SCHEDULE-PART I

SPRING 1969-70

CONTINUED

DEPARTMENT 140-ECONOMICS

FACULTY		COURSES						SUPERVISION												OTHER	
DEPARTMENTAL FACULTY		UNDERGRADUATE			GRADUATE			NUMBER OF STUDENTS SUPERVISED												NON-INSTR ACTIVITIES	
A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
																	THESES				
PAYROLL NO.	NAME	CATALOG DESIG	TYPE INST	FCC HRS/ WEEK	CATALOG DESIG	TYPE INST	FCC HRS/ WEEK	SOP	JUN	SEN	1YR GRA	2YR GRA	3YR GRA	4YR GRA	+4Y GRA	POS DOC STU	PRO MAS	PHD ENR	PHD NOT ENR	ACTIVITY	O/O FULL TIME
LECTURERS																					
24	[redacted]																				
	OWN DEPARTMENT	ECO101	CLAS	2.0			-	0	0	3	0	1	0	0	0	0	0	0	0	-	-
	OTHER DEPARTMENTS			-	PA 552	SEM	1.5													-	-
					POL554	SEM	1.5														
25	[redacted]																				
	OTHER DEPARTMENTS			-			-	0	0	1	0	0	0	0	0	0	0	0	0	-	-
26	[redacted]																				
	OWN DEPARTMENT	ECO101	CLAS	2.0	ECO552	SEM	3.0	0	6	4	2	0	0	0	0	0	0	0	1	-	-
27	[redacted]																				
	OWN DEPARTMENT	ECO101	LECT	1.0	ECO523	SEM	3.0	0	5	1	0	0	0	0	0	0	0	0	0	-	-
		ECO101	CLAS	2.0																	
28	[redacted]																				
	OWN DEPARTMENT	ECO308	PREC	3.0			-	0	0	5	0	0	0	0	0	0	0	0	0	-	-
	OTHER DEPARTMENTS			-	PA 512A	SEM	3.0													COMM ON UNIV STORE	12
29	[redacted]																				
	OWN DEPARTMENT	ECO101	CLAS	2.0	ECO581	SEM	1.5	0	9	0	0	0	0	0	0	0	0	0	0	-	-
30	[redacted]																				
	OWN DEPARTMENT	ECO308	PREC	1.0			-													-	-
31	[redacted]																				
	OWN DEPARTMENT			-	ECO566	SEM	1.5													-	-
	OTHER DEPARTMENTS			-	PA 508	SEM	1.5													-	-

* NON-CONTACT INVOLVEMENT

Table 5a (continued)

DEPARTMENTAL FACULTY SCHEDULE-PART I SPRING 1969-70

CONTINUED DEPARTMENT 140-ECONOMICS

FACULTY		COURSES						SUPERVISION												OTHER	
DEPARTMENTAL FACULTY		UNDERGRADUATE			GRADUATE			NUMBER OF STUDENTS SUPERVISED												NON-INSTR ACTIVITIES	
A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
																	THESES				
PAYROLL NO.	NAME	CATALOG DESIG	TYPE INST	FCC HRS/ WEEK	CATALOG DESIG	TYPE INST	FCC HRS/ WEEK	SOP	JUN	SEN	1YR GRA	2YR GRA	3YR GRA	4YR GRA	+4Y GRA	POS DOC STU	PRO MAS	PHD ENR	PHD NOT ENR	ACTIVITY	O/O FULL TIME
STUDENT ASSTS																					
32 [redacted]	OWN DEPARTMENT	ECO101	CLAS	4.0			-													-	-
33 [redacted]	OWN DEPARTMENT	ECO101	CLAS	4.0			-													-	-
34 [redacted]	OWN DEPARTMENT	ECO102	CLAS	2.0			-													-	-
35 [redacted]	OWN DEPARTMENT	ECO101	CLAS	4.0			-													-	-
36 [redacted]	OWN DEPARTMENT	ECO308	PREC	2.0			-													-	-
TOTALS																					
1. BY DEPARTMENT FACULTY																					
(A) ON DEPARTMENT PROGRAM				62.8			39.5	0	36	45	10	15	12	20	1	0	0	25	60	NO. FTES	5.22
(B) FOR OTHER DEPARTMENTS				0.0			22.5	0	1	5	0	3	1	0	0	0	0	3	0	NO. FTES	1.90
(C) TOTAL((A) + (B))				62.8			62.0	0	37	50	10	18	13	20	1	0	0	28	60	NO. FTES	7.12

* NON-CONTACT INVOLVEMENT

Table 5b

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PRINCETON UNIVERSITY

DIVISIONAL FACULTY SCHEDULE-PART I

SPRING 1969-70

DIVISION 2-SOCIAL SCIENCES

	COURSES		SUPERVISION												OTHER
	UNDERGRADUATE	GRADUATE	NUMBER OF STUDENTS SUPERVISED												NON-INSTR ACTIVITIES
	E	H	J	K	L	M	N	O	P	Q	R	S	T	U	W
												THESES			
	HOURS	HOURS	SOP	JUN	SEN	1YR GRA	2YR GRA	3YR GRA	4YR GRA	+4Y GRA	POS DOC STU	PRO MAS	PHD ENR	PHD NOT ENR	NUMBER OF FTE'S
TOTALS															
1. BY DEPARTMENT FACULTY															
(A) ON DEPARTMENT PROGRAM	410.5	187.1	1	243	265	84	61	53	56	9	0	0	91	125	43.38
(B) FOR OTHER DEPARTMENTS	43.5	52.2	0	44	83	16	12	8	6	1	0	0	13	12	12.78
(C) TOTAL((A) + (B))	454.0	239.3	1	287	348	100	73	61	62	10	0	0	104	137	56.16

Table 6a

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DEPARTMENTAL FACULTY SCHEDULE - PART II SPRING 1969-70

DEPARTMENT 140-ECONOMICS

FACULTY		COURSES						SUPERVISION												OTHER	
NON-DEPARTMENT		UNDERGRADUATE			GRADUATE			NUMBER OF STUDENTS SUPERVISED												NON-INSTR ACTIVITIES	
A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
																	THESES				
PAYROLL NO.	NAME	CATALOG DESIG	TYPE INST	FCC HRS/ WEEK	CATALOG DESIG	TYPE INST	FCC HRS/ WEEK	SOP	JUN	SEN	1YR GRA	2YR GRA	3YR GRA	4YR GRA	+4Y GRA	POS DOC STU	PRO MAS	PHD ENR	PHD NOT ENR	ACTIVITY	0/0 FULL TIME
PROFESSORS																					
1 [redacted]	FROM W W SCHOOL			-	EC0562 EC0562 EC0566	SEM LECT SEM	0.8 0.8 1.5	0	0	2	0	0	0	0	0	0	0	0	0	-	-
ASSOC. PROFS																					
2 [redacted]	FROM W W SCHOOL	EC0102 EC0102	LECT CLAS	2.0 2.0			-	0	0	1	2	0	0	1	0	0	0	1	1	-	-
3 [redacted]	FROM W W SCHOOL			-	EC0518	SEM	1.5	0	0	0	0	0	1	0	0	0	0	0	3	-	-
4 [redacted]	FROM W W SCHOOL			-			-	0	0	0	0	1	2	3	0	0	0	5	2	-	-
5 [redacted]	FROM W W SCHOOL			-	EC0562 EC0562 EC0564	SEM LECT SEM	0.8 0.8 1.5	0	4	2	2	0	1	0	0	0	0	0	2	-	-
ASST. PROFS																					
6 [redacted]	FROM W W SCHOOL	EC0307 EC0307	PREC LECT	3.0 2.0			-	0	6	1	0	0	0	0	0	0	0	0	0	-	-

* NON-CONTACT INVOLVEMENT

Table 6a (continued)

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DEPARTMENTAL FACULTY SCHEDULE-PART II SPRING 1969-70

CONTINUED DEPARTMENT 140-ECONOMICS

FACULTY		COURSES						SUPERVISION												OTHER	
NON-DEPARTMENT		UNDERGRADUATE			GRADUATE			NUMBER OF STUDENTS SUPERVISED												NON-INSTR ACTIVITIES	
A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
																	THESES				
PAYROLL NO.	NAME	CATALOG DESIG	TYPE INST	FCC HRS/WEEK	CATALOG DESIG	TYPE INST	FCC HRS/WEEK	SOP	JUN	SEN	1YR GRA	2YR GRA	3YR GRA	4YR GRA	+4Y GRA	POS DOC STU	PRO MAS	PHD ENR	PHD NOT ENR	ACTIVITY	0/0 FULL TIME
TOTALS																					
2. BY NON-DEPARTMENT FACULTY																					
(A) ON DEPARTMENT PROGRAM				9.0			7.7	0	10	6	4	1	4	4	0	0	0	6	8	NO. FTES	0.00
TOTAL DEPT PROGRAM(1(A)+2(A))				71.8			47.2	0	46	51	14	16	16	24	1	0	0	31	68	NO. FTES	5.22

* NON-CONTACT INVOLVEMENT

Table 6b

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PRINCETON UNIVERSITY

DIVISIONAL FACULTY SCHEDULE-PART II

SPRING 1969-70

DIVISION 2-SOCIAL SCIENCES

	COURSES		SUPERVISION												OTHER
	UNDERGRADUATE	GRADUATE	NUMBER OF STUDENTS SUPERVISED												NON-INSTR ACTIVITIES
	E	H	J	K	L	M	N	O	P	Q	R	S	T	U	W
												THESES			
	HOURS	HOURS	SOP	JUN	SEN	1YR GRA	2YR GRA	3YR GRA	4YR GRA	+4Y GRA	POS DOC STU	PRO MAS	PHD ENR	PHD NOT ENR	NUMBER OF FTE'S
TOTALS															
2. BY NON-DEPARTMENT FACULTY															
(A) ON DEPARTMENT PROGRAM	55.2	54.2	0	45	89	15	11	13	6	0	0	0	11	19	5.10
TOTAL DEPT PROGRAM (1(A)+2(A))	465.7	241.3	1	288	354	99	72	66	62	9	0	0	102	144	28.48

Table 7 Instructional Space Map

347E DICKINSON HALL GO2 CAP= 64 USAGE=22 CLASSROOM CLASSROOM (0-85) PAGE 025

	MON	TUE	WED	THUR	FRI	SAT
8.40		ECO101 C 08 024 8.40 9.40 2.0 DECAMPBELL	ECO101 C 08 024 8.40 9.40 2.0 DECAMPBELL			
9.40	ECO326 P 01 013 9.40 10.40 1.0 DSHAMERMESH	ECO101 C 11 024 9.40 10.40 2.0 DECAMPBELL	ECO101 C 11 024 9.40 10.40 2.0 DECAMPBELL			
10.40			LIT121 C 02 013 10.40 11.40 2.0 BCFENIK		LIT121 C 02 013 10.40 11.40 2.0 BCFENIK	
11.40		ECO207 L 01 035 11.40 12.40 2.0 UEREINHARDT	LIT121 C 03 016 11.40 12.40 2.0 BCFENIK	ECO207 L 01 035 11.40 12.40 2.0 UEREINHARDT	LIT121 C 03 016 11.40 12.40 2.0 BCFENIK	
1.20	ECO101 C 02 024 1.20 2.20 2.0 DSHAMERMESH	ECO326 L 01 035 1.20 2.20 2.0 DSHAMERMESH	ECO101 C 02 024 1.20 2.20 2.0 DSHAMERMESH	ECO326 L 01 035 1.20 2.20 2.0 DSHAMERMESH		
2.20		ECO101 C 16 017 2.20 3.20 2.0 BGSCHNEIDER	ECO101 C 16 017 2.20 3.20 2.0 BGSCHNEIDER			
3.20	ECO101 C 07 020 3.20 4.20 2.0 WEOATES		ECO101 C 07 020 3.20 4.20 2.0 WEOATES			
8.00	ECO207 B 01 035 7.30 9.00 1.0 UEREINHARDT			ECO326 P 03 012 7.30 8.30 1.0 DSHAMERMESH		

OVERLAP ECO326 P 02 012 1 0 7.30 8.30 1.0 DSHAMERMESH

Table 8

```
701020                          P R I N C E T O N   U N I V E R S I T Y                                         PAGE  1

                               D E P A R T M E N T A L   C O U R S E   S U M M A RY                        SPRING 1969-70

                                                                                         DEPARTMENT 140-ECONOMICS
-------------------------------------------------------------------------------------------------------------------------
                                                 R A N K   T O T A L S
-------------------------------------------------------------------------------------------------------------------------
                                   C O U R S E   C O N T A C T   H O U R S   P E R   W E E K
-------------------------------------------------------------------------------------------------------------------------
  R A N K S           *                       T Y P E S   O F   I N S T R U C T I O N                              *TOTAL
-------------------------------------------------------------------------------------------------------------------------
                      *      C         D         E         F          G         H         J        K  *  L    M    N  *  O
-------------------------------------------------------------------------------------------------------------------------
                                                                                                      *   NON-CONTACT  *
                      *  LECTURE     CLASS    PRECEPT   SEMINAR  CONFERENCE   DRILL      LAB     OTHER *GPDG LAB OTHER *HOURS
-------------------------------------------------------------------------------------------------------------------------
UNDERGRAD


PROFESSOR                    5         0         0         0          0         0         0        0     0    0    0      5
ASSOCIATE PROFESSOR          2         2         0         0          0         0         0        0     0    0    0      4
ASSISTANT PROFESSOR         13         6        14         1          0         0         0        0     0    0    0     34
LECTURER                     1         8         4         0          0         0         0        0     0    0    0     13
STUDENT ASSISTANT            0        14         2         0          0         0         0        0     0    0  [illegible] 16
                           ---       ---       ---       ---        ---       ---       ---      ---   ---  ---  ---    ---
UNDERGRAD SUBTOTALS         21        30        20         1          0         0         0        0     0    0    0     72

GRADUATE


PROFESSOR                    2         3         0        13          0         0         0        0     0    0    0     18
ASSOCIATE PROFESSOR          1         0         0         4          0         0         0        0     0    0    0      5
ASSISTANT PROFESSOR          0         8         0         8          0         0         0        0     0    0    0     16
LECTURER                     0         0         0         9          0         0         0        0     0    0    0      9
STUDENT ASSISTANT            0         0         0         0          0         0         0        0     0    0    0      0
                           ---       ---       ---       ---        ---       ---       ---      ---   ---  ---  ---    ---
GRADUATE SUBTOTALS           3        11         0        33          0         0         0        0     0    0    0     47
                     ----------------------------------------------------------------------------------------------------


TOTALS                      24        41        20        34          0         0         0        0     0    0    0    119
```

Table 9

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DEPARTMENTAL FACULTY SCHEDULE-PART II SPRING 1969-70

DEPARTMENT 140-ECONOMICS

SUPERVISION - RANK TOTALS - ON DEPARTMENT PROGRAM

RANKS	NUMBER OF DEPARTMENTAL STUDENTS SUPERVISED														
	UNDERGRAD			GRADUATE									TOTALS		
										THESES					
A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q
	SOPH	JUN	SEN	1 YR GRAD	2 YR GRAD	3 YR GRAD	4 YR GRAD	+4YR GRAD	POST DOC	PRO MAS	PHD ENR	PHD NOT ENR	UNDERGRAD (B-D)	GRADUATE (E-K,N)	TOTAL
PROFESSOR	0	4	17	4	8	6	10	1	0	0	11	46	21	75	96
ASSOC PROF	0	4	3	4	1	4	4	0	0	0	6	8	7	21	28
ASST PROF	0	18	18	4	6	6	10	0	0	0	14	13	36	39	75
LECTURER	0	20	13	2	1	0	0	0	0	0	0	1	33	4	37
STUD ASST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	46	51	14	16	16	24	1	0	0	31	68	97	139	236

Table 10a

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PRINCETON UNIVERSITY

DEPARTMENTAL FACULTY SCHEDULE-PART I

SPRING 1969-70

DEPARTMENT 140-ECONOMICS

RANK TOTALS - BY DEPARTMENT FACULTY

NON - INSTRUCTIONAL ACTIVITIES

RANKS	NUMBER OF FTE'S								
A	B	C	D	E	F	G	H	J	K
	CHAIRMAN	VICE-CHRM	DEPT REP	PROGRAMS	COMMITTEES	OTHER	SUB-TOTALS	LEAVE OF ABS	TOTALS
UNDERGRADUATE									
PROFESSOR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ASSOC PROF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ASST PROF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LECTURER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
STUD ASST	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
--SUBTOTALS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GRADUATE									
PROFESSOR	0.00	0.00	0.00	0.00	0.05	0.00	0.05	0.00	0.05
ASSOC PROF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ASST PROF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LECTURER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
STUD ASST	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
--SUBTOTALS	0.00	0.00	0.00	0.00	0.05	0.00	0.05	0.00	0.05
GENERAL									
PROFESSOR	0.00	0.00	0.00	0.00	1.85	0.00	1.85	3.00	4.85
ASSOC PROF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ASST PROF	0.00	0.00	0.00	0.00	0.10	0.00	0.10	2.00	2.10
LECTURER	0.00	0.00	0.00	0.00	0.12	0.00	0.12	0.00	0.12
STUD ASST	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
--SUBTOTALS	0.00	0.00	0.00	0.00	2.07	0.00	2.07	5.00	7.07
TOTALS	0.00	0.00	0.00	0.00	2.12	0.00	2.12	5.00	7.12

Table 10b

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PRINCETON UNIVERSITY

PAGE 1

DEPARTMENTAL FACULTY SCHEDULE-PART II

SPRING 1969-70

DEPARTMENT 140-ECONOMICS

RANK TOTALS - ON DEPARTMENT PROGRAM

NON - INSTRUCTIONAL ACTIVITIES

RANKS	NUMBER OF FTE'S								
A	B	C	D	E	F	G	H	J	K
	CHAIRMAN	VICE-CHRM	DEPT REP	PROGRAMS	COMMITTEES	OTHER	SUB-TOTALS	LEAVE OF ABS	TOTALS
UNDERGRADUATE									
PROFESSOR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ASSOC PROF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ASST PROF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LECTURER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
STUD ASST	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
--SUBTOTALS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GRADUATE									
PROFESSOR	0.00	0.00	0.00	0.00	0.05	0.00	0.05	0.00	0.05
ASSOC PROF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ASST PROF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LECTURER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
STUD ASST	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
--SUBTOTALS	0.00	0.00	0.00	0.00	0.05	0.00	0.05	0.00	0.05
GENERAL									
PROFESSOR	0.00	0.00	0.00	0.00	0.12	0.00	0.12	3.00	3.12
ASSOC PROF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ASST PROF	0.00	0.00	0.00	0.00	0.05	0.00	0.05	2.00	2.05
LECTURER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
STUD ASST	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
--SUBTOTALS	0.00	0.00	0.00	0.00	0.17	0.00	0.17	5.00	5.17
TOTALS	0.00	0.00	0.00	0.00	0.22	0.00	0.22	5.00	5.22

APPENDIX D

ALLOCATION METHODS AND DETAILED TABLE FOR FORMAT IIA

This appendix describes the cost and income allocation methods used to obtain Format IIA of the program budget -- the "incremental cost University level" program budget format. (See pp. 378-387 for an introductory explanation of this format.)

The primary sources of the basic cost and income data are one of our budget forms (Form 10) and the University's Financial Report. A detailed table of Format IIA follows the explanation of the allocations.

Academic Departments

Faculty Salaries

Total faculty salaries are allocated in the following way. The sponsored research part of faculty salaries is taken directly from the budget and allocated to sponsored research. The remainder of the faculty salaries (the teaching budget) is allocated across undergraduate, graduate, non-sponsored research and preservation of knowledge, and unallocated. This allocation is based on the CAFSIS reports of faculty activities (see Appendix C) and is made in the following way.

The instructional activities on CAFSIS (lectures, seminars, labs, grading, supervision, etc.) are weighted according to the clock hours per week estimated to be associated on average with each unit of the different activities. In making these estimates, we asked a small sample of our faculty for their own estimates and also considered some more detailed University of California surveys. CAFSIS lists administration time in Full-Time Equivalents (FTE's), and splits the time into undergraduate, graduate, and unallocated (primarily chairmanship duties). Our calculations assumed that one FTE was equivalent to fifty clock hours per week. The total clock hours associated with the CAFSIS activities for an individual were then subtracted from fifty times each individual's fraction of time on the teaching budget to obtain an estimate of time for non-sponsored research (including keeping up with the field). The teaching budget faculty salaries for each individual in each department were then spread over undergraduate, graduate, non-sponsored research, and unallocated, in proportion to the hours (for that individual) associated with each category. This method counts leaves with pay as non-sponsored research. If non-sponsored research turned out to be negative, it was taken as 0.

Other Salaries, Operating Expenses, and Benefits

Faculty summer salaries for sponsored projects are taken directly from Form 10. The remainder of faculty summer salaries are assumed to be related to supervision of graduate students. Assistants in Instruction are taken as undergraduate instruction (as shown in CAFSIS). Assistants in Research charged to sponsored research are taken as sponsored research; the remainder are taken as non-sponsored research. Professional Research/Professional Technical Staff charged to sponsored research is taken as sponsored research; remainder, as non-sponsored research. Supporting staff directly charged to sponsored research is assigned to sponsored research. The remainder is prorated in proportion to the totals of the department salaries distributed up to this point. Benefits on average are 14%[1/] of non-student salaries, and are taken as such. The remaining operating expenses are divided into two parts. The part charged directly to sponsored research is taken as sponsored research. The remainder of operating expenses is prorated over undergraduate, graduate, non-sponsored research, and unallocated in proportion to the distribution of all salaries.

Income

Endowment income for each department is split among undergraduate, graduate, non-sponsored research, and unallocated in proportion

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[1/] The percentage is now (June 1972) higher, but was 14% at the time these calculations were made.

to total departmental expenses in these categories. Unspecified faculty salary income is split among undergraduate, graduate, non-sponsored research, and unallocated in proportion to the total faculty salaries in these categories for the whole University.

Operations and Maintenance (O&M) of Buildings

The operating cost of each building is split in proportion to the square footage assigned to each activity in the building. Operating cost of each faculty office is split in the same proportion as the salary of the occupant of the office. Classrooms and instructional labs are allocated to the department to which they are assigned. Their operating costs are split between undergraduate and graduate in proportion to the hours of utilization. Research space is split by department between non-sponsored research and sponsored research according to the type of research in each laboratory.

Major Maintenance Expenses

The total transfer from the operating budget to the major maintenance reserve is split in proportion to the distribution of the operating costs of buildings.

Equipment Acquisition Expenses

For academic departments, the transfer to the equipment reserve is split by department based on each department's contribution to the expenses counted in the transfer calculation. The amount for each department is shown in the unallocated section.

New Construction Expenses

Construction expenses are split in proportion to the distribution of the operating costs (and hence the square footage) of the building.

Special Academic Programs

Expenses are split among undergraduate, graduate, non-sponsored research, sponsored research, and unallocated according to the primary function of the program. In all cases except research, the primary function is clear. In cases of research, direct charges to sponsored research are taken as sponsored research and the remainder as non-sponsored research for all but supporting staff. Supporting staff expenses are allocated in proportion to other salary totals. Non-directly charged (to sponsored research) operating expenses are allocated in proportion to the totals of non-directly charged salaries.

Student Aid

Expenses are the undergraduate scholarships and prizes and any transfer from the operating budget to the student loan fund. Income is the endowment income and gifts and grants specified for these purposes.

Library

Our allocation of the library expenses and income is based on the assumption that the primary purpose of the University's extensive library is the preservation of knowledge and the collection of information needed for research. We consider the library to be part of the research core of the University, to which the undergraduate and graduate programs are added. Thus in allocating the library expenses and income, we allocate to undergraduate and graduate only the incremental costs of these programs and put the rest of the library (except for administration) in research and preservation of knowledge.

Library for the undergraduate program includes (1) a percentage of the circulation costs equal to the percentage of actual transactions made by undergraduates, obtained from a sample of transactions, and (2) the reserve acquisitions for undergraduates. The corresponding parts are taken for graduate. The remainder of the library costs is allocated to research and the preservation of knowledge. These costs are split between sponsored and non-sponsored research in the following way. The remaining direct library costs are divided into acquisitions (including preparation of new acquisitions), circulation, and administration. The acquisitions are split by subject and the preparations are split in the same proportions. The circulation costs are also split by subject based on a sample of circulation transactions. Costs are then summed by academic division (Humanities, Social Sciences, Natural Sciences, and Engineering). The costs for each division are split between sponsored and non-sponsored research in proportion to the split between sponsored and non-sponsored research of the faculty salaries in that division. The library administration is in the unallocated category.

O&M and major maintenance costs are divided among acquisitions (including storage), circulation, and administration in proportion to the square feet assigned each function. These separate pieces are then allocated themselves in the same proportions as the direct library costs in the same category. (For splitting the space costs for storage, the percentage of cards in the catalog index devoted to each subject was used as a measure of the percentage of stack space for each subject.)

Library income is allocated according to restrictions placed upon it. Within each restricted category, the income is then allocated in the same proportions as the direct costs in each category.

Computer Center

The sponsored research computer charges are taken as the sponsored research part of departmental computer charges. The remainder of the computer expenses are taken as non-sponsored research.

Academic Administration

Direct undergraduate academic administration includes Bureau of Student Aid, Dean of the College, Dean of Students, Admissions, Registrar, etc. The Dean of the Graduate School is in the graduate section. The Provost and the Dean of the Faculty are in the unallocated category.

Operating costs of administrative buildings are distributed to offices on a square foot basis. Equipment acquisition costs are taken from the Financial Report by office.

Dormitories

Direct, O&M, major maintenance, and equipment acquisition costs for undergraduate dormitories are taken directly from the Financial Report. Activities such as catering, laundry agency, vending, etc. are unallocated. Income is direct student charges.

Dining Halls and Cafeterias

Direct, O&M, and equipment acquisition costs for undergraduate dining halls are taken directly from the Financial Report. Cafeterias for both staff and students are in unallocated. Income is direct user charges.

Athletics

Our allocation of athletics activities and expenses is based on the assumption that our football and basketball programs are not just for the undergraduates who participate on the teams but are also for the benefit of the whole University and the broader community. On the other hand -- and although wider benefits are present here as well -- we have attributed other athletics (including physical education) to the undergraduates who participate in them. Of course the facilities for these athletics can be and are used by other members of the University, and a strict cost allocation of the maintenance of these facilities based on actual users would of course allocate some part of the cost to these other members of the University.

Inevitably, these are somewhat arbitrary distinctions, especially since there is considerable support for nearly all Princeton teams. However, football and basketball generate considerably more income than any other sports, and this fact has been given due weight in our assumptions.

As a result of these assumptions, we have allocated athletics in the following way. All athletics except football and basketball are in undergraduate. Football and basketball are in unallocated. The salaries of the athletic staff and the direct operating expenses of the sports are allocated directly to each sport. Administration and supporting staff salaries are allocated in proportion to direct salaries. O&M and major maintenance costs are split on the basis of the square footage for each sport, and equipment acquisition is split in proportion to the total direct costs for each sport.

Income for athletics in the undergraduate section is the gate receipts and user charges for all sports except football and basketball.

Unallocated University Services

Health physics, machine shop, printing, mailing, and alumni records (PMAR), and photo-duplication are workload related. Departmental charges for these activities are taken as expenses for the departments and counted as income to the service activities.

Planning, Plant, and Properties

The parts of Planning, Plant, and Properties not already distributed (administration, overhead, security, roads, walks and lawns, real estate management, commercial properties, and faculty and staff housing) are taken directly from the Financial Report and put in unallocated.

Unrestricted Income

All unrestricted income is in unallocated.

PROGRAM BUDGET FY 69

Format IIA

I. UNDERGRADUATE

A. Academic Departments

Operating		
Direct		
Expenses		
Faculty Salaries	- 1,483.3	
Other Salaries, Operating Expenses, Benefits	- 936.0	
Total Expenses	- 2,419.3	
Income		
Endowment	690.8	
Gifts and Grants	74.1	
Unspecified Faculty Salaries	268.8	
Total Income	1,033.7	
Net Direct		- 1,385.6
O&M		
Expense	- 362.0	
Income	41.7	
Net O&M		- 320.3
Major Maintenance		- 106.0
Net Operating		- 1,811.9
New Construction Expenses		- 1,213.7

B. Special Academic Programs

Operating		
Direct		
Expenses	- 339.5	
Income		
Endowment	0.0	
Gifts and Grants	37.5	
Unspecified Faculty Salaries	0.0	
Total Income	37.5	
Net Direct		- 302.0
O&M		- 26.0
Net Operating		- 328.0

C. Student Aid		
1. Scholarships and Prizes		
Operating		
Expenses		- 2,434.1
Income		
Endowment	1,683.0	
Gifts and Grants	717.0	
Total Income		2,400.0
Net Operating		- 34.1
2. Transfer to Student Loan Fund		- 300.0
D. Academic Support		
Library		
Operating		
Direct		
Expenses	- 191.3	
Income		
Endowment General	28.5	
Street Endowment	10.4	
Gifts and Other	22.1	
Total Income	61.0	
Net Direct		- 130.3
O&M		
Expenses	- 36.9	
Income	6.3	
Net O&M		- 30.6
Major Maintenance		- 11.4
Equipment Acquisition		- 2.8
Net Operating		- 175.1
New Construction Expenses		- 37.2

E. Academic Administration

Operating		
Direct		- 883.8
O&M		- 28.9
Major Maintenance		- 1.3
Equipment Acquisition		- 7.9
Net Operating		- 921.9

F. University Services

1. Dormitories

Operating		
Expenses		
Direct	- 420.3	
O&M	- 454.2	
Major Maintenance	- 205.9	
Equipment Acquisition	- 7.5	
Total Expenses		- 1,087.9
Income		
User	1,514.2	
Endowment	78.6	
Total Income		1,592.8
Net Operating		504.9

2. Dining Halls and Cafeterias

Operating		
Expenses		
Direct	- 1,559.2	
O&M	- 150.8	
Equipment Acquisition	- 76.9	
Total Expenses		- 1,786.9
Income		1,814.5
Net Operating		27.6

G. Athletics		
Operating		
Expenses		
Direct	- 587.7	
O&M	- 260.7	
Equipment Acquisition	- 113.7	
Major Maintenance	- 6.7	
Total Expenses		- 968.8
Income		120.1
Net Operating		- 848.7
New Construction Expenses		- 41.4
H. Planning, Plant, and Properties		
O&M Other Buildings		
Net Operating		- 30.5
I. Undistributed Income		
Tuition		7,027.4
Fees		134.0
Total		7,161.4
TOTAL OPERATING EXPENSES		-11,025.3
TOTAL OPERATING INCOME		14,269.0
TOTAL NET OPERATING		3,243.7
TOTAL NEW CONSTRUCTION EXPENSES		- 1,292.3

II. GRADUATE

A. Academic Departments

Operating		
Direct		
Expenses		
Faculty Salaries	- 1,749.4	
Other Salaries, Operating Expenses Benefits	- 660.9	
Total Expenses	- 2,410.3	
Income		
Endowment	810.6	
Gifts and Grants	82.1	
Unspecified Faculty Salaries	317.1	
Total Income	1,209.8	
Net Direct		- 1,200.5
Support of Graduate Students		
Expenses	- 3,813.6	
Income		
Endowment	901.0	
Gifts and Grants		
Non-Government	891.0	
Government	1,620.0	
Total Income	3,412.0	
Net Support of Graduate Students		- 401.6
O&M		
Expenses	- 196.8	
Income	21.9	
Net O&M		- 174.9
Major Maintenance		- 57.5
Net Operating		- 1,834.5
New Construction Expenses		- 394.6

B. Special Academic Programs

Operating		
Expenses		- 11.9
Income		
Endowment	12.0	
Gifts and Grants	.7	
Total Income		12.7
Net Operating		0.8

C. Academic Support

Library		
Operating		
Direct		
Expenses	- 186.8	
Income		
Endowment	27.7	
Gifts	19.7	
Other	1.7	
Total Income	49.1	
Net Direct		- 137.7
O&M		
Expenses	- 33.4	
Income	5.7	
Total O&M		- 27.7
Major Maintenance		- 10.2
Equipment Acquisition		- 2.8
Net Operating		- 178.4
New Construction Expenses		- 33.4

D. Academic Administration

Operating	
Direct	- 201.1
O&M	- 12.0
Net Operating	- 213.1

E. University Services

1. Housing

Operating		
Graduate College		
Expenses		
Direct	- 105.0	
O&M	- 94.5	
Major Maintenance	- 6.6	
Equipment Acquisition	- 0.0	
Total Expenses	- 206.1	
Income	258.2	
Net Graduate College		52.1
Rental Housing		
Expenses		
Direct and O&M	- 364.1	
Debt Retirement	- 70.0	
Total Expenses	- 434.1	
Income		
User	335.2	
Endowment for Debt Retirement	35.6	
Total Income	370.8	
Net Rental Housing		- 63.3
Net Operating		- 11.2

2. Food Services	
Operating	
Graduate College	
Expenses Direct	- 279.4
Income	310.0
Net Operating	30.6
F. Planning, Plant, and Properties	
Other Buildings	
Operating	
O&M	- 2.7
Net Operating	- 2.7
G. Undistributed Income	
Operating	
Tuition	3,143.1
Government Cost of Education	203.0
Fees	67.6
Endowment	73.9
Net Operating	3,487.6
TOTAL OPERATING EXPENSES	- 7,858.7
TOTAL OPERATING INCOME	9,137.8
TOTAL NET OPERATING	1,279.1
TOTAL NEW CONSTRUCTION	- 428.0

III. RESEARCH AND PRESERVATION OF KNOWLEDGE

SPONSORED RESEARCH

A. Academic Departments

Operating		
Direct		
Faculty Salaries	- 717.9	
Other Salaries, Operating Expenses Benefits		
Direct Charges	-10,819.0	
Allocated	- 571.8	
Net Direct		-12,108.7
O&M		
Forrestal	- 528.1	
Main Campus	- 236.1	
Total O&M		- 764.2
Major Maintenance		- 115.0
Equipment Acquisition		
Expenses	- 790.2	
Income	791.8	
Net Equipment Acquisition		1.6
Net Operating		-12,986.3
New Construction Expenses		- 1,072.4

B. Special Academic Programs

Operating		
Direct Charges		-11,295.1
Allocated		- 784.7
O&M		
Forrestal	- 661.7	
Main Campus	- 6.6	
Total O&M		- 668.3
Major Maintenance		
Expenses	- 293.5	
Income	293.5	
Net Major Maintenance		0.0

(continued)

Equipment Acquisition		
Expenses	- 648.5	
Income	648.6	
Net Equipment Acquisition		0.1
Net Operating		-12,748.0
New Construction Expenses		- 1,246.6
C. Academic Support		
1. Library		
Operating		
Direct		
Expenses		
Acquisitions	- 558.9	
Circulation	- 50.9	
Total Expenses	- 609.8	
Income		
Endowment	90.8	
Gifts		
Non-Government	37.6	
Government	26.9	
Other	5.6	
Total Income	160.9	
Net Direct		- 448.9
O&M		
Expenses	- 63.3	
Income	10.8	
Net O&M		- 52.5
Major Maintenance		- 19.6
Equipment Acquisition		- 9.1
Net Operating		- 530.1
New Construction Expenses		- 79.9

2. Computer Center		
Operating		
Expenses		
Direct	- 490.1	
O&M	- 6.4	
Equipment Acquisition	- 6.5	
Total Expenses		- 503.0
Income Government		87.9
Net Operating		- 415.1
New Construction Expenses		- 700.0
D. Academic Administration		
Operating		
Direct		- 251.4
Equipment Acquisition		- 1.7
Net Operating		- 253.1
E. University Services		
Forrestal Stock Room		
Operating		- 51.9
F. Miscellaneous		
Other Equipment Acquisitions		- 13.3
G. Income		
Direct Charges		24,163.0
Part of Indirect Charges		2,834.8
Total Income		26,997.8
TOTAL OPERATING EXPENSES		-28,991.3
TOTAL OPERATING INCOME		28,991.3
TOTAL NET OPERATING		0.0
TOTAL NEW CONSTRUCTION EXPENSES		- 3,098.9

NON-SPONSORED RESEARCH AND PRESERVATION OF KNOWLEDGE

A. Academic Departments

Operating		
Direct		
Expenses		
Faculty Salaries	- 4,160.5	
Other Salaries, Operating Expenses, Benefits	- 1,572.9	
Total Expenses	- 5,733.4	
Income		
Endowment	1,859.9	
Gifts and Grants	197.7	
Unspecified Faculty Salaries	754.1	
Total Income	2,811.7	
Net Direct		- 2,921.7
O&M		
Expenses	- 239.6	
Income	32.6	
Net O&M		- 207.0
Major Maintenance		- 75.0
Net Operating		- 3,203.7
New Construction Expenses		- 642.3

B. Special Academic Programs

Operating		
Expenses		
Direct	- 691.1	
O&M	- 4.0	
Major Maintenance	- 12.7	
Equipment Acquisition	- 12.7	
Total Expenses		- 720.5
Income		
Endowment	356.9	
Gifts and Grants	229.9	
Total Income		586.8
Net Operating		- 133.7

C. Academic Support

1. Library

Operating		
Direct		
Expenses		
Acquisitions	- 1,375.7	
Circulation	- 145.9	
Total Expenses	- 1,521.6	
Income		
Endowment	226.6	
Gifts		
Non-Government	93.9	
Government	67.1	
Other	14.1	
Total Income	401.7	
Net Direct		- 1,119.9
O&M		
Expenses	- 201.9	
Income	34.5	
Net O&M		- 167.4
Major Maintenance		- 62.3
Equipment Acquisition		- 22.7
Net Operating		- 1,372.3
New Construction Expenses		- 256.6

2. Computer Center

Operating		
Expenses		
Direct	- 1,182.9	
O&M	- 14.3	
Equipment Acquisition	- 15.6	
Total Expenses		- 1,212.8
Income Government		212.1
Net Operating		- 1,000.7
New Construction Expenses		- 624.2

3. Art Museum		
Operating		
Expenses		
Direct	- 157.0	
O&M	- 52.6	
Equipment Acquisition	- 110.0	
Total Expenses		- 319.6
Income Endowment		42.3
Net Operating		- 277.3
4. McCarter Theater		
Operating		
Direct		- 73.2
O&M		- 30.5
Major Maintenance		- 1.0
Net Operating		- 104.7
D. Academic Administration		
Operating Direct		- 40.6
Net Operating		- 40.6
TOTAL OPERATING EXPENSES		-10,254.7
TOTAL OPERATING INCOME		4,121.7
TOTAL NET OPERATING		- 6,133.0
TOTAL NEW CONSTRUCTION EXPENSES		- 1,523.1

IV. UNALLOCATED Indirect Support

A. Academic Departments

Operating		
Direct		
Expenses		
Faculty Salaries	- 532.6	
Other Salaries, Operating Expenses, Benefits	- 999.6	
Total Expenses	- 1,532.2	
Income		
Endowment	510.3	
Gifts and Grants	60.9	
Unspecified Faculty Salaries	96.4	
Total Income	667.6	
Net Direct		- 864.6
O&M		
Expense	- 285.4	
Income	20.6	
Net O&M		- 264.8
Major Maintenance		- 251.7
Equipment Acquisition		- 481.4
Net Operating		- 1,862.5

B. Special Academic Programs

Operating		
Direct		
Expenses	- 578.0	
Income Endowment	115.7	
Net Direct		- 462.3
O&M		- 5.5
Major Maintenance		0.0
Equipment Acquisition		3.0
Income -- Gifts and Grants		51.7
Net Operating		- 419.1
New Construction Expenses		0.0

C. Special Educational Programs

Operating		
Expenses -- Direct		- 168.0
Net Operating		- 168.0

D. Academic Support

1. Library

Operating		
Direct		
Expenses - Administration	- 189.5	
Income		
Endowment	28.1	
O&M	7.1	
Gifts		
Non-Government	11.7	
Government	8.3	
Other	1.7	
Total Income	56.9	
Net Direct		- 132.6
O&M		- 42.0
Major Maintenance		- 12.9
Equipment Acquisition		- 2.8
Net Operating		- 190.3
New Construction Expenses		- 42.1

E. Academic Administration

Operating		
Expenses		
Direct	- 286.6	
O&M	- 14.9	
Major Maintenance	- 0.6	
Equipment Acquisition	- 19.4	
Total Expenses		- 321.5
Income -- Gifts and Grants		56.0
Net Operating		- 265.5

F. General Administration

Operating		
Expenses		
Direct	- 3,075.4	
O&M	- 166.6	
Major Maintenance	- 25.4	
Equipment Acquisition	- 199.2	
Total Expenses		- 3,466.6
Income Endowment		158.8
Net Operating		- 3,307.8

G. University Services

1. Chapel

Operating	
Direct	- 126.1
O&M	- 48.6
Major Maintenance	- 14.2
Equipment Acquisition	- 33.3
Net Operating	- 222.2
New Construction Expenses	- 0.7

2. Health Services

Operating	
Direct	- 541.1
O&M	- 27.5
Equipment Acquisition	- 14.7
Net Operating	- 583.3

3. Health Physics

Operating	
Expenses	- 46.8
Income	53.1
Net Operating	6.3

4. University Machine Shop

Operating		
Expenses		
Direct	- 541.1	
Equipment Acquisition	- 5.7	
Total Expenses		- 546.8
Income		653.3
Net Operating		106.5

5. PMAR

Operating		
Expenses		
Direct	- 309.2	
Equipment Acquisition	- 13.9	
Total Expenses		- 323.1
Income		223.0
Net Operating		- 100.1

6. Photoduplication

Operating		
Expenses		
Direct	- 71.0	
Equipment Acquisition	- 78.0	
Total Expenses		- 78.8
Income		91.3
Net Operating		12.5

7. Food Services and Dormitories

Operating		
Administration		- 269.8
Dining Halls		
Expenses	- 69.2	
Income	96.4	
Net Dining Halls		27.2
Cafeterias		
Expenses Direct	- 192.9	
O&M	- 17.6	
Income	139.7	
Net Cafeterias		- 70.8
Other		
Expenses	- 443.6	
Income	440.8	
Net Other		- 2.8
Net Operating		- 316.2

H. Athletics

Operating		
Expenses		
Direct	- 370.0	
O&M	- 96.7	
Major Maintenance	- 35.8	
Equipment Acquisition	- 56.0	
Total Expenses		- 558.5
Income		478.2
Net Operating		- 80.3
New Construction Expenses		- 2,937.5

I. Planning, Plant, and Properties

Operating		
Administration		
Direct	- 254.5	
O&M	- 29.0	
Equipment Acquisition	- 0.6	
Total Administration		- 284.1
Main Campus		
Overhead	- 187.9	
Security		
Direct	- 516.9	
O&M	- 5.6	
Equipment Acquisition	- 8.0	
Total Security	- 530.5	
Roads, Walks, Lawns, etc.		
Expenses		
Direct	- 435.3	
Major Maintenance	- 214.8	
Total Expenses	- 650.1	
Income -- Gifts and Grants	6.0	
Total Roads, Walks, Lawns, etc.	- 644.1	
Total Main Campus		- 1,362.5

Real Estate		
Management	- 91.3	
Commercial Property		
Expenses	- 143.0	
Income	562.2	
Net Commercial Property	419.2	
Faculty and Staff Housing		
Operations		
Expenses		
Direct	- 817.5	
O&M	- 5.9	
Major Maintenance	- 155.8	
Equipment Acquisition	- 30.1	
Retirement of Debt	- 639.2	
Total Expenses	- 1,648.5	
Income	1,018.5	
Net Operations	- 630.0	
Total Real Estate		- 302.1
Other Buildings and Grounds		
Operating		
O&M	- 40.6	
Major Maintenance	- 260.2	
Equipment Acquisition	- 24.5	
Net Operating		- 325.3
Other Income -- Endowment		14.6
Net Operating Planning, Plant, and Properties		- 2,259.4
New Construction Expenses		
Real Estate		
Housing	- 934.3	
Purchases	- 717.8	
Total Real Estate	- 1,652.1	
Other	- 704.1	
Total New Construction Expenses		- 2,356.2

J. Miscellaneous	
1. Other Equipment Acquisition	- 3.0
2. Undistributed Benefits	- 81.6
Total Miscellaneous	- 84.6
K. Undistributed Income	
Indirect Cost Recovery (Remainder)	3,656.2
Annual Giving	3,345.2
Unrestricted Endowment	1,689.0
Income on Investment of Current Funds	1,270.8
Invested Funds Service Charge	467.3
Current Income Used for Equipment Acquisition	787.1
Unrestricted Gifts and Grants	87.7
Overall Administration	81.0
Miscellaneous	282.0
Total Undistributed Income	11,666.3
TOTAL OPERATING EXPENSES	-14,638.4
TOTAL OPERATING INCOME	16,570.7
TOTAL NET OPERATING	1,932.3
TOTAL NEW CONSTRUCTION EXPENSES	- 5,336.5

TOTAL UNIVERSITY

TOTAL OPERATING EXPENSES	-72,768.4
TOTAL OPERATING INCOME	73,090.5
TOTAL NET OPERATING	322.1
TOTAL NEW CONSTRUCTION EXPENSES	-11,678.8

APPENDIX E

ALLOCATION METHODS FOR FORMAT IIB

This appendix describes the cost and income allocation methods used to obtain Format IIB of the program budget -- the "average cost University level" program budget format. (See pp. 378-387 and Appendix D for an introductory explanation of this format and for a description of Format IIA, on which Format IIB is based.)

The data for Format IIB come almost entirely from Format IIA.

1. For Academic Departments, Special Academic Programs, Library, and Academic Administration, all dollars appearing on lines on the Unallocated level are distributed to the corresponding lines of the other levels in the same department. For a given line, the amounts allocated to the corresponding lines in the other levels are in proportion to the amounts appearing on those lines in Format IIA.

2. The transfer to reserves for equipment acquisition for each department is distributed over all levels in proportion to the total direct expenses for each level of each department.

3. For Planning, Plant, and Properties, we allocate Administration between Plant Operations and Real Estate in proportion to the total direct expenses of these areas. The amount allocated to Plant Operations is split between Forrestal Campus and Main Campus in proportion to the total direct expenses for these areas. The amount for Main Campus is added to Main Campus Administration. The accumulated total for Main Campus is then split between operations and maintenance of buildings and roads and grounds in proportion to the total direct expenses for these areas. The amount allocated to Main Campus buildings is allocated to the department operations and maintenance of buildings in proportion to the distribution of O&M of buildings costs in Format IIA. Main Campus Roads and Grounds and its allocated overhead is distributed to all levels of all departments on Main Campus in proportion to the total

expenses for each level. The amount of Planning, Plant, and Properties Administration distributed to Forrestal Campus is added to Forrestal Campus Administration. The resulting total is distributed over operations and maintenance of buildings (Forrestal) in proportion to distribution of O&M of buildings costs in Format IIA.

The amount of Planning, Plant, and Properties Administration distributed to Real Estate is added to Real Estate Administration. The resulting total is allocated to Commercial Real Estate, Faculty and Staff Housing, and Graduate Student Housing in proportion to the total direct expenses in these areas.

For all sections of Planning, Plant, and Properties any income associated with expenses should be allocated in the same proportion as the expenses.

4. Food Services, Dormitories, and Graduate College Administration are distributed over all levels in Food Services, Undergraduate Dormitories, and Graduate College in proportion to the total direct expenses of the levels in each department.

5. General Administration and Security expenses are distributed to all levels of all departments remaining after changes in 1, 2, 3, and 4 above. This distribution is in proportion to the total expenses, direct and indirect, already distributed to each level in each department.

6. Indirect Cost Recovery attributable to sponsored projects is placed on the Sponsored Project level as undistributed income.

7. Tuition is split into graduate and undergraduate. For graduate, we split tuition into a piece belonging to the Graduate level of Academic Departments and a piece belonging to the Graduate level of all else excluding Real Estate and Dormitory and Food Services. This split is in proportion to the total expenses, direct and indirect, for the Graduate levels of the two areas. For the non-Academic Department area, the graduate tuition piece is split among the Graduate levels of the various departments in proportion to the total expenses, direct and indirect, of the Graduate levels of the departments. The Academic Department piece

of graduate tuition is split among Academic Departments in proportion to the FTE graduate students in each department given in Form 7.

The allocation of undergraduate tuition proceeds in exactly the same way as graduate tuition.